

160409

Vol. III.
TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, [REDACTED] 1923

No. [REDACTED] 120

THOMSON SPOT WELDER COMPANY, PETITIONER,

vs.

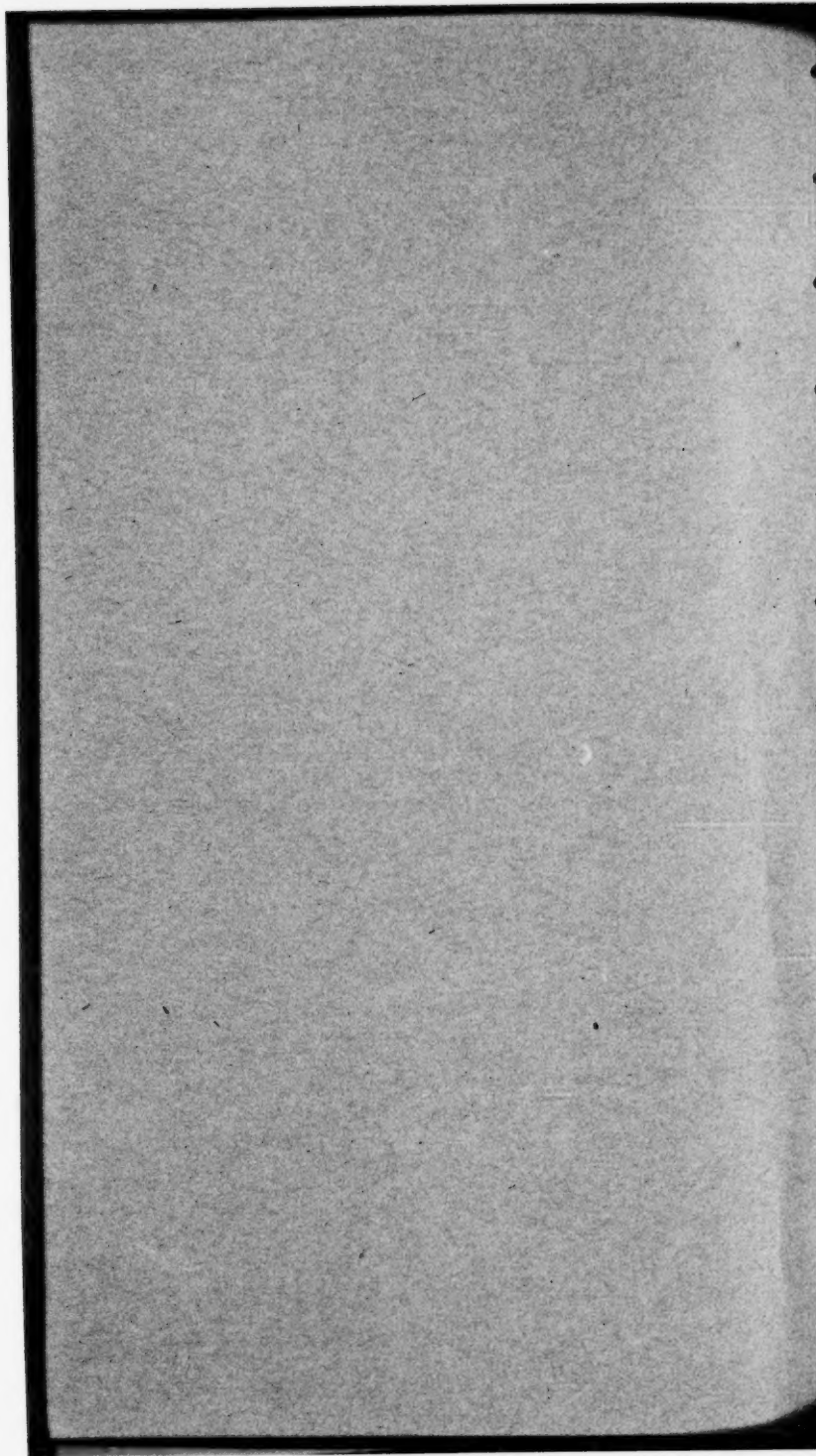
FORD MOTOR COMPANY.

**WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT
OF APPEALS FOR THE SIXTH CIRCUIT.**

PETITION FOR CERTIORARI FILED SEPTEMBER 12, 1922.

CERTIORARI AND RETURN FILED DECEMBER 13, 1922.

(29,139)



(29,139)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1922.

No. 589.

THOMSON SPOT WELDER COMPANY, PETITIONER,

vs.

FORD MOTOR COMPANY.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT
OF APPEALS FOR THE SIXTH CIRCUIT.

VOLUME III.

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2—390.

UNITED STATES OF AMERICA,

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the Records of this Office of the File Wrapper and Contents, in the matter of

INTERFERENCE NUMBER 36,709,

DE FERRANTI

vs.

HARMATTA.

SUBJECT-MATTER: ELECTRIC WELDING.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 14th day of September, in the year of our Lord one thousand nine hundred and seventeen and of the Independence of the United States of America the one hundred and forty-second.

(Seal)

R. F. WHITEHEAD,
Acting Commissioner of Patents.

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1913

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INTERFERENCE No. 36,709.

SEBASTIAN ZIANI DE FERRANTI
S. 668,464, Div. of 208,034

vs.

JOHANN HARMATTA.
Pat. 1,046,066.

ELECTRIC WELDING.

Division 3.

Room No. 175.

2—251.

Address only

"The Commissioner of Patents,
Washington, D. C."

Letter No.

RAJ

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

Oct. 2, 1913.

Examiner of Interferences:

An interference is found to exist between the following cases,
and in respect to the invention therein specified, to wit:

CASES.

1. Name, Sebastian Ziani de Ferranti; Post-office address, Grindelford Bridge, Sheffield, England; Title, Electric Welding; Filed Dec. 29, 1911, Ser. No. 668,464 (Division of application No. 208,034, May 14, 1904); Attorney, Spear, Middleton, Donaldson and Spear, Washington, D. C.
2. Name, Johann Harmatta; Post-office address, Szepesvaralja, Austria-Hungary; Title, Electric Welding; Filed Dec. 3, 1903, Ser. No. 183,677; Patented Dec. 3, 1912, No. 1,046,066; Attorney, O. E. Duffy and Sons, of 612 F St., N. W., Washington, D. C.; Assignee, Thomson Electric Welding Company, Lynn, Massachusetts.

Intf. Number 36,709.

Intf. declared Oct. 7, 1913.

Statements due Dec. 1, 1913.

INVENTION.

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current

through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

The relation of the counts of the interference to the claims of the respective parties is as follows:

<i>Counts</i>	<i>De Ferranti</i>	<i>Harmatta</i>
1	6	1
2	7	2
3	8	3
4	9	4

Counts compared.
N.R.

WM. J. RICH,
Examiner, Division 3.

Form 3570.

Administration of United States of America

Administration des États-Unis d'Amérique.

RETURN RECEIPT
AVIS DE RÉCEPTION

for a letter with declared value of _____

d'une lettre avec valeur déclarée de _____

for a registered article (_____)

d'un objet recommandé (_____)

of _____ the _____, 19 _____

mailed by _____ le _____, 19 _____

expédiée par M _____

and addressed to _____

et adressé à M _____

(complete address)

(adresse complète)

The undersigned declares that a letter with declared value _____ to the above-mentioned address, and

Le soussigné déclare qu'une lettre avec valeur déclarée _____ à l'adresse susmentionnée, et

Stamp of delivering office.
Timbre du bureau distributeur.

originating at _____

provenant de _____

delivered the _____

le _____

Signature (3) of the addressee:

Signature (3) du _____

HARMATTA JÁNOS

SZEPESVÁRALJA

Signature (3) of the postal official of the office of delivery:

Signature (3) de l'agent du bureau distributeur.

1913/12.

Thirchmayer János

(1) Nature of the article (letter, sample, print, etc.).

(1) Nature de l'objet (lettre, échantillon, imprimé, etc.).

(2) Office of origin; date of mailing; at that office; registration No. of that office.

(2) Bureau d'origine; date de dépôt à ce bureau; No. d'enregistrement au même bureau.

(3) Note.—This receipt must be signed by the addressee or, if the regulations of the country of destination permit it, by the postal official of the office of delivery, then placed in an envelope and sent by the first mail to the office of origin of the article to which it relates.

(3) Note.—Cet avis doit être signé par le destinataire ou, si les règlements du pays de destination le comportent, par l'agent du bureau distributeur, puis mis sous enveloppe et envoyé par le premier courrier, au bureau d'origine de l'objet qu'il concerne.

Statement of Harmatta.

Filed Nov. 26, 1913.

Approved Dec. 5, 1913.

B

UNITED STATES PATENT OFFICE.

IN RE INTERFERENCE NO. 36,709.

JOHANN HARMATTA

vs.

SEBASTIAN ZIANI DE FERRANTI.

PRELIMINARY STATEMENT OF JOHANN HARMATTA.

JOHANN HARMATTA, a subject of the King of Hungary, residing at Szepesvaralja, in the Kingdom of Hungary, being duly affirmed, deposes and says that he is a party to the interference declared by the Commissioner of Patents on the 7th day of October 1913, between his patent No. 1,046,066, dated December 3d 1912, and an application for a similar invention filed by Sebastian Ziani de Ferranti; that he conceived the invention set forth in the declaration of interference at the end of the year 1900, without having had then the opportunity of carrying out said invention for lack of time; that on or about the 15th day of September 1901, as he set working his own manufactory at Szepesvaralja, he first made drawings of the device for carrying out the process set forth in the claims involved in the interference; that in the first days of October 1901 he modified an old chain-welding machine so as to be able to carry out said process as set forth in the claims involved in the interference; that on the 15th of to the 20th day of October 1901, he had thin iron sheets welded and attachments welded upon sheet metal vessels successfully and on a manufacturing scale by his workmen, Michael Hozza and Michael Tomaskiewicz, with the help of the process forming the object of the claims involved in the interference; said two workmen, which live here at Szepesvaralja and which remember very well to have performed the said work at the mentioned time, being ready to give testimony in respect of the above facts; that in the course of November 1901 he mentioned said electric weldings of thin iron sheets to Mr. Hegenscheidt, Director General of the firm "Oberschlesische Eisenindustrie A. G." (Upper Silesian Iron Industry Company of share-holders) at Gleiwitz, Silesia, Germany, in the presence of the Chief Engineer of said Mr. Hegenscheidt, Mr. Wilhelm Fischer, which is at present Director, and that said gentlemen promised to inform the firm

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"Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz, Silesia, Germany, about the said electric weldings of thin iron sheets; that the firm "Eisenhütte Silesia" received said information from said gentlemen, but raised doubts about the possibility of electrically welding such thin iron sheets without danger of burning through said metal sheets; that said firm "Eisenhütte Silesia," for the sake of verification, sent during the summer of the year 1902, to him (Harmatta) several blanks of sheet metal utensils, which he (Harmatta) welded, with the help of the process forming the object of the claims involved in the interference, to the thorough satisfaction of said "Eisenhütte Silesia"; that then Mr. Schweisfurth of Paruschowitz, technical Director of the firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz, Silesia, Germany came to him in order to look at the electric weldings and the modified chain-welding machine; and, as said Mr. Schweisfurth had convinced himself by ocular proof that it is very easy to weld such thin iron sheets with the help of the process forming the object of the claims involved in the interference, the said firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz acquired the property of said process by a contract made with him (Harmatta) at the date of February 12th 1902, and that from the month of January 1903 a great number of full-size machines adapted to carry out the welding process forming the object of the claims involved in the interference have been manufactured by said "Eisenhütte Silesia" for personal use and sale to others; the first new and full-size machine of this kind having been completed in the last days of January 1903 and first successfully operated and used in February 1903 for carrying out his process, in the works of the "Eisenhütte Silesia," in the village of Paruschowitz, Silesia (Germany).

That patents for such invention were applied for and obtained as follows:

Application filed in Germany, March 24th 1903, published June 20th 1904, patent not granted;

Application filed in Sweden, October 12th 1903, patent dated October 12th 1903, No. 24,035; published the 16th day of November 1907 and granted the 23rd day of January 1908;

Application filed in France, October 13th 1903, patent dated October 13th 1903, No. 336,187; published the 1st day of March 1904 and granted the 7th day of January 1904;

Application filed in Austria, October 14th 1903, patent dated August 1st 1905, No. 24,335; published the 8th day of January 1905 and granted the 30th day of March 1906;

Application filed in Denmark, October 14th 1903; published May 16th 1905, patent not granted;

Application filed in Luxemburg, October 14th 1903, patent dated October 15th 1903, No. 5300; published the 14th day of October 1903 and granted the 14th day of October 1903;

Application filed in Hungary, October 15th 1903, patent dated

October 15th 1903, No. 31,382; published the 29th day of April 1904 and granted the 24th day of August 1904;

Application filed in Switzerland, October 15th 1903, patent dated October 15th 1903, No. 29,723; published June 21st 1905 and granted the 21st day of June 1905;

Application filed in Belgium, October 16th 1903, patent dated October 16th 1903, No. 173,119; published the 20th day of January 1904 and granted the 31st day of October 1903;

Application filed in Russia, October 20th 1903, patent not granted.

Application filed in Spain, October 20th 1903, patent dated October 10th 1903, No. 32,726; published the 10th day of December 1903 and granted the 10th day of December 1903;

Application filed in Italy, October 22nd 1903, patent dated October 22nd 1903, No. 180/117; published the 16th day of December 1903 and granted the 16th day of December 1903;

Application filed in Great Britain, October 23rd 1903, patent dated October 23rd 1903, No. 22981/1903; published the 20th day of October 1904 and granted the 25th day of August 1904;

Application filed in Canada, December 4th 1903, patent not granted;

Application filed in Japan, December 14th 1903, patent dated April 6th 1905, No. 8640; published the 6th day of April 1905 and granted the 6th day of April 1905;

Application filed in Romania, July 11th 1906, patent not granted.

That such invention was fully described in the following patent specifications:

Sweden No. 24,035;

France No. 336,187;

Austria No. 24,335;

Hungary No. 31,382;

Switzerland No. 29,723;

Great Britain No. 22981/1903;

Japan No. 8640.

The knowledge of such invention was first introduced in the United States on or about December 3rd 1903 by the papers belonging to United States application for patent Serial Number 183,677, filed December 3rd 1903, the said papers being the application upon which the aforesaid patent No. 1,046,066 was granted, said application papers having been sent by deponent to Messrs. Marion & Marion at Montreal, Canada, who filed said application in the United States Patent Office on or about December 3rd 1903.

American Consulate General Budapest Hungary:—ss:

JOHANN HARMATTA,

N. Y. 599/1913.

Subscribed and affirmed before me this 7th day of November 1913.

(Seal)

F. E. MALLETT,
Vice and Deputy Consul General.
(Foreign Fee Stamp)

Defendant's Exhibit No. 33.

473

No. 5

2—207

Address only
The Commissioner of Patents.
Washington, D. C.

RRM

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.

Nov. 26, 1913.

Before the Examiner of Interferences:

Intf. No. 36709.

In the matter of the interference of Harmatta vs. de Ferranti.

SIR:

You are hereby informed that the preliminary statement of
Harmatta
has been received and filed.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

O. E. Duffy & Sons,
612 F St. N. W.
6—2051 Washington, D. C.

(Printed Letter Head Omitted)

Washington, D. C., November 25, 1913.

Hon. Commissioner of Patents,
Washington, D. C.

SIR:

We enclose herewith preliminary statement of Sebastian Z. de Ferranti, in the interference of de Ferranti vs. Harmatta, No. 36709. We call attention to the early date of filing of the British patent of de Ferranti, under which a convention date is claimed of May 25, 1903, and as the date of filing of the Harmatta case is later than this it is asked that de Ferranti be regarded as the senior party in the interference in the setting of times for taking testimony.

Respectfully,
SPEAR, MIDDLETON, DONALDSON & SPEAR.
By ELLIS SPEAR.

REO

Statement of di Ferranti
Filed Nov. 26 1913
Approved Dec. 5 1913

36709—5

UNITED STATES PATENT OFFICE.

INTERFERENCE NO. 36709.

In the matter of the interference between

SEBASTIAN ZIANI DE FERRANTI

AND

THE THOMSON ELECTRIC WELDING COMPANY.

Assignees of JOHANN HARMATTA.

PRELIMINARY STATEMENT OF SEBASTIAN ZIANI DE FERRANTI.

Kingdom of Great Britain and Ireland, City of London, England, ss:

SEBASTIAN ZIANI DE FERRANTI, Engineer, of Baslow, in the County of Derby, England (late of Grindleford Bridge, Sheffield, in the County of Derby, England, and of 31, Lyndhurst Road, Hampstead, London, England,) being duly sworn, doth depose and say:

THAT he is a party to the above numbered Interference declared by the Commissioner of Patents, dated October 7th, 1913, between his application Serial No. 668461, filed December 29th, 1911, "ELECTRIC WELDING", which was itself divided off from his Patent Application Serial No. 208034, filed May 14th, 1904, for a "PROCESS AND APPARATUS FOR ELECTRICALLY WELDING TURBINE BLADES TO THEIR CARRYING ELEMENTS", and Patent No. 1,046,066, granted to THE THOMSON ELECTRIC WELDING COMPANY, Lynn, Massachusetts, Assignees of JOHANN HARMATTA, of Szepesvaralja, Austria-Hungary, for "ELECTRIC WELDING", the application in pursuance of which said patent was granted having been filed by him on 3rd December 1903, bearing the Serial No. 183677.

THAT he conceived and made the invention set forth in the Declaration of Interference in or about the month of November 1902 being at that time in England.

THAT patents for such invention were applied for as follows:
Application filed in GREAT BRITAIN, May 25th, 1903, under No. 11921. Published on the 25th August 1904, Patent issued on 9th November, 1904.

Application filed in AUSTRIA on May 20th, 1904, which application was published on the 15th July, 1905, and the Patent was issued on 27th December, 1905, under No. 22567.

Application filed in GERMANY under No. F. 18896, on the 21st May, 1904, and the Patent was issued on the 2nd May, 1907, under No. 184014.

Application filed in BELGIUM under No. 141999 upon the 26th May, 1904, Patent issued on the 15th June, 1904, under No. 177505.

Application filed in HUNGARY under No. 6671 on the 28th May, 1904, Specification published 12th July, 1905, Patent issued 2nd September, 1905, under No. 33799.

Application filed in FRANCE under No. 9543 on the 31st May, 1904, Specification published 25th August 1904, Patent issued 25th August, 1904, under No. 344053.

Application filed in SWITZERLAND under No. 37595 on the 25th February, 1905, and divided from Patent No. 31796, issued on the 20th May, 1904. Specification published 26th September, 1905, Patent issued 31st October, 1905, under No. 33124.

Application filed in RUSSIA under No. 26649, on 27th April, 1905.

10th May, 1905 Allowed on the 13/26th December, 1912. Patent not yet granted.

Application filed in CANADA under No. 118355, on the 23rd May, 1905, Patent issued on the 6th November, 1905, under No. 101886.

Application filed in Italy under No. 79 on the 27th July, 1905, 100

Patent issued upon the 18th September, 1905, under No. 208, Volume 211.

Application filed in the UNITED STATES OF AMERICA under Serial No. 385056, filed 22nd July 1907, divided from application Serial No. 208034, filed 14th May, 1904. Patent issued 24th December, 1907, under No. 874398.

That his invention has never been described in a printed publication by him other than by the issues of copies of the specifications of the various patents so far published as set out hereinabove.

THAT the knowledge of this invention was introduced into the United States by the sending thereto of the papers in connection with the application for patent, which, as he is informed and does verily believe, were dispatched from London, England, on the 2nd May, 1904, by his British Patent Agents, Messrs. Marks & Clark, of 18, Southampton Buildings, in the County of London, England, with a letter to their United States correspondents: Messrs. Spear, Middleton, Donaldson & Spear, of 1003, F. Street, Washington, D. C., now of Victor Building, 9th & Grant Place, Washington, D. C., the Attorneys of Record, instructing the said Messrs. Spear, Middleton, Donaldson & Spear to file such application and solicit-

ing their services in procuring a patent therefor in the United States.

THAT he is informed that this letter with the application papers was received by the said Messrs. Spear, Middleton, Donaldson & Spear, and the application filed in the United States Patent Office on the 14th May, 1904.

THAT under the provisions of the International Convention for the protection of industrial property, to which Great Britain and the United States are parties, he claims the date of conceiving and making his invention, forming the subject matter of the present Interference in England viz., November 1902 or failing this, he claims the date of his application for a patent in Great Britain, namely May 25th, 1903, as the date of the invention forming the subject matter of the present Interference, and forming part of his "Process and apparatus for electrically welding turbine blades to their carrying elements," set out in his United States patent application Serial No. 208034 above referred to, such United States application being embodied and covered by the said British application under Patent No. 11921 of 1903, granted thereon, as is established by the certified copy of the British patent No. 11921 of 1903, now produced and shown to him, and attached hereto and marked "S. Z. de F¹."

SEBASTIAN ZIANI DE FERRANTI.

Sworn at the Consulate-General of the United States of America at London, England, this 15th day of November 1913 before me Hubert D. Jamison, Deputy Consul-General of the United States of America at London, England.

[SEAL]

WB/LW

6859

Foreign Fee Stamp.

Interference
matia No. 35709.
e Ferranti Exhibit
tified Copy of [Second Edition]
fish patent 1921.

I Certify this, including the Drawing forming part thereof, to be a true Copy.	
DOCKET CLERK	11ms
NOV 22 1916	H. Hafford
13 FEB 1913	Acting for Comptroller.
U.S. PATENT OFFICE	

N° 11,921



A.D. 1903

3

5673 9

Date of Application, 25th May, 1903

1921 Complete Specification Left, 25th Feb., 1904—Accepted, 25th Aug., 1904

PROVISIONAL SPECIFICATION.

"Improvements in and relating to the Electric Welding of Turbine Blades."

I, SERASTIAN ZIANI DE FERRANTI, Engineer, of 31, Lyndhurst Road, Hampstead, London, N.W. do hereby declare the nature of this invention to be as follows:

The invention relates to improvements in and relating to the electrical welding of turbine blades to the discs or drums carrying them, and has for its object to overcome the difficulties which have been experienced in electrically welding together the two parts which differ considerably as regards their power of rising to the required welding temperature when heated at the point of junction.

The main difficulty arises through the blades and their carrying discs differing as regards their power of conducting heat away from the welding point.

In the welding of a turbine blade to the disc, ring or the like to which it is to be secured it is found that the comparatively large volume of metal forming the disc rapidly conducts heat away from the welding point, thus preventing the temperature of the disc part rising to the required extent and causing an unsatisfactory weld.

The invention, therefore, consists broadly in adjusting the volume of metal of the disc in the neighbourhood of the welding point so that approximately equal heating occurs in both faces to be welded, whereby turbine wheels with welded blades may be reliably produced in an inexpensive way.

In carrying out my invention according to one modification grooves may be cut across the edge of the ring or several grooves may run circumferentially completely round the edge, or again intersecting sets of grooves inclined to one another may be cut on the edge of the ring.

According to another modification, radial holes may be bored a short distance into the edge, either arranged in patterns so as to leave intervening projections of untouched metal to which the blades may be welded or arranged without particular reference to the position of the blades.

The object to be kept in mind in carrying out the invention is to ensure sufficient areas untouched as explained above, while at the same time leaving sufficient areas untouched to ensure due mechanical strength in the welded joint.

Again, the result aimed at may be secured by boring holes through from face to face of the ring at a radius slightly less than that of its outside edge.

According to another modification of the invention, the ring may be built up of two or more thinner rings held in their relative positions by distance pieces or in any other convenient manner, the blades being then welded in position on their outside edges.

Again, the ring may be built up of a set of thin laminae, the edges of which are notched, the laminae being assembled in such a way that the notches

[Price 8d.]

Improvements in and relating to the Electric Welding of Turbine Blades

are "stepped" with regard to each other, the intervening projections of metal thus following the shape of the turbine blades to be welded to them.

Dated this 25th day of May 1903.

MARKS & LERK.

18, Southampton Buildings, London, W.C.
15, Temple Street, Birmingham, and
30, Cross Street, Manchester,
Agents.



COMPLETE SPECIFICATION.

"Improvements in and relating to the Electric Welding of Turbine Blades." 10

I, SEBASTIAN ZIANI DE FERRANTI, Engineer, of 31, Lyndhurst Road, Hampstead, London, N.W., do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement: 15

The invention relates to improvements in and relating to methods of electrically welding turbine blades to the discs, drums or the like carrying them and has for its object to overcome the difficulties which have been experienced in electrically welding together two such parts differing considerably as regards their power of rising to the required welding temperature when heated at the point of junction, so that blade carrying elements with welded blades may be 20 reliably produced in an inexpensive manner.

The main difficulty arises through the blades and their carriers differing as regards their power of conducting heat away from the welding point.

In the welding of a turbine blade to the carrier to which it is to be secured, 25 it is found that the comparatively large volume of metal forming the carrier rapidly conducts heat away from the welding point, thus preventing the temperature of the carrier rising to the required extent and causing an unsatisfactory weld.

The invention, therefore, consists broadly in adjusting the volume of the blade carrying element in the neighbourhood of the welding point, so that 30 approximately equal heating occurs in both faces to be welded.

Referring to the accompanying drawings which, with the exception of Figure 4, show the invention applied, by way of example, to a type of parallel flow turbine in which the blades are mounted on the edge of a wheel-like 35 body,

Figure 1 is a part side elevation of such a wheel having cross grooves,

Figure 1^a being an edge view;

Figure 2 shows a similar edge view of a modification in which sets of intersecting grooves are adopted; 40

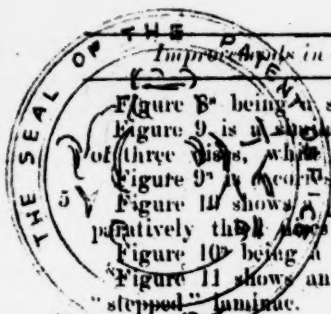
Figure 3 shows an edge view of a form having circumferential grooves,

Figure 4 shows, in longitudinal sectional elevation, part of a drum carrier to which the blades are welded in accordance with one form of the invention:

Figures 5 and 6 show edge views of modifications in which holes are bored 45 radially into the edge of the disc, while

Figure 7 is a part side elevation in which holes are bored through from face to face of the disc;

Figure 8 shows a sectional plan of a form of wheel built up of two dished discs, held apart at their circumferential portions by distance pieces. 50



Improvements in and relating to the Electric Welding of Turbine Blades.

Figure 8^a being a scrap edge view to a larger scale;
 Figure 9 is a plan sectional plan of a modified form of wheel built up of three discs, while
 Figure 9^a is a corresponding scrap edge view also to a larger scale;
 Figure 10 shows a part sectional elevation of a wheel built up of two comparatively thin discs having notched edges,
 Figure 10^a being a scrap edge view, while finally
 Figure 11 shows an edge view of a form of wheel built up of a series of "stepped" laminæ.

10 It will be seen that all the edge views are shown as developments for clearness of drawing and not as true projections.

The same reference symbols are, when possible, used in the accompanying drawings to denote similar parts:

15 In carrying out the invention according to the form shown in Figures 1 and 1^a, the turbine wheel or disc is shown at *a*, cross grooves, *b*, being cut in its circumferential edge so as to leave projecting portions of metal, *c*, to which the turbine blades, *d*, are welded.

The same object is attained by cutting two intersecting sets of grooves, *e*, in the edge of the disc, as is shown in Figure 2, or by cutting circumferential
 20 grooves, such as *f*, completely round the edge (see Figures 3 and 3^a.)

Figure 4 shows the invention, according to one form, applied to the case of a drum blade carrier, *a'*: the drum is grooved circumferentially with grooves, *f'*, the intervening collars of metal being then cross-cut to form projecting teeth, *e'*, on which the blades are welded.

25 According to a modified form, radial holes, *h*, may be bored a short distance into the edge of the disc, these holes being either arranged in patterns so as to leave intervening projections of untouched metal to which the blades may be welded as shown in Figure 5, or arranged without particular reference to the position of the blades, (see Figure 6).

30 In Figure 7, a method is shown of removing metal in the neighbourhood of the welding point by boring holes, *i*, through (or partly through) from face to face of the disc at a radius slightly less than that of its outside edge.

The object to be kept in mind in this as in other modifications, is to remove sufficient metal to enable the temperature to rise to the welding point as explained above, whilst at the same time leaving sufficient areas untouched
 35 to ensure due mechanical strength in the welded joint.

Referring now to Figures 8 and 8^a, a form of wheel is shown somewhat diagrammatically which is built up of two dished discs, *k*, of comparatively thin metal, held apart at their circumferential portions by one or more distance
 40 pieces such as *l*, disposed at a radius somewhat less than the maximum radius of the discs, the blades, *d*, being welded in position on their outside edges.

Figures 9 and 9^a show a type of wheel generally similar to that last described but having an intermediate plane disc, *m*, in addition to the two dished discs, *k*: a portion, *n*, of the hub, *o*, is in this case made detachable so as
 45 to allow the different parts of the wheel to be assembled. Distance pieces, *l*, are indicated as before but any other convenient method of holding the discs in their correct relative position may be adopted.

In Figures 8 and 9, the dished discs, *k*, are indicated as secured to the hub, *o*, by means of the bolts, *p*.

In the modification shown in Figure 10 and 10^a two dished discs, *k*, are again employed but of thicker metal, their circumferential portions being brought into contact and cross grooves, *b*, being cut in their edges in accordance with the method described above with reference to Figures 1 and 1^a.

55 Again, that portion of the disc carrying the blades, may be built up of a set of thin laminæ, *r*, (see Figure 11) the edges of which are notched as at *s*, the laminæ being assembled in such a way that the notches, *s*, are "stepped"

Improvements in and relating to the Electric Welding of Turbine Blades.

with regard to each other, so that the intervening projections of metal may follow the shape of the turbine blades to be welded to them.

Instead of notching the laminae, they may be prepared in accordance with other of the methods pointed out above, before being assembled in the manner indicated.

In an invention such as the present, it is not practicable to describe every method of carrying its broad underlying principle into effect, but the scope is sufficiently indicated by the many examples given above, and moreover it will be evident without further description, how the invention may be applied to the welding together of turbine blades and carriers of other forms than those described above by way of example.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In turbines, the method of welding the turbine blades to the element 15 carrying them, consisting in so adjusting the volume of metal in the blade carrier in the neighbourhood of the welding point, that approximately equal heating occurs in the two parts, substantially as described.
2. In turbines, blade carrying elements having blades welded thereupon 20 in accordance with the method claimed in Claim 1.
3. In turbines, grooving the blade carrier in the neighbourhood of the welding point, substantially as and for the purpose described.
4. The bladed turbine element, hereinbefore described with reference to Figures 1 and 1^a of the accompanying drawings.
5. The bladed turbine element, hereinbefore described with reference to 25 Figure 2 of the accompanying drawings.
6. The bladed turbine element, hereinbefore described with reference to Figures 3 and 3^a of the accompanying drawings.
7. The bladed turbine element, hereinbefore described with reference to 30 Figure 4 of the accompanying drawings.
8. In turbines, forming holes in the blade carrier in the neighbourhood of the welding point, substantially as and for the purpose described.
9. The bladed turbine elements hereinbefore described with reference to Figures 5 and 6 of the accompanying drawings.
10. The bladed turbine element, hereinbefore described with reference to 35 Figure 7 of the accompanying drawings.
11. In turbines, building the blade carriers of comparatively thin parts across the non-touching edges of which the blades are welded, substantially as described.
12. The bladed turbine element, hereinbefore described with reference to 40 Figures 8 and 8^a of the accompanying drawings.
13. The bladed turbine element, hereinbefore described with reference to Figures 9 and 9^a of the accompanying drawings.
14. The bladed turbine element, hereinbefore described with reference to 45 Figures 10 and 10^a of the accompanying drawings.
15. In turbines, building the blade carriers of prepared laminae assembled in a "stepped" manner, substantially as and for the purpose hereinbefore described.

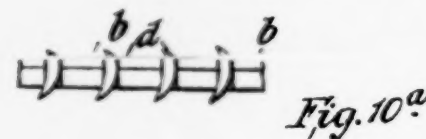
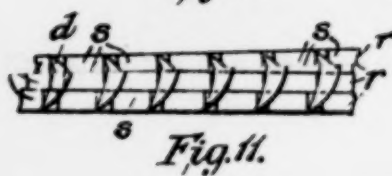
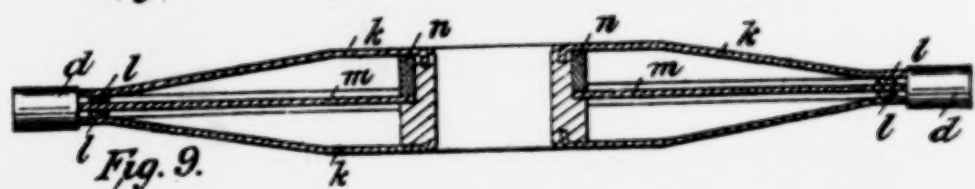
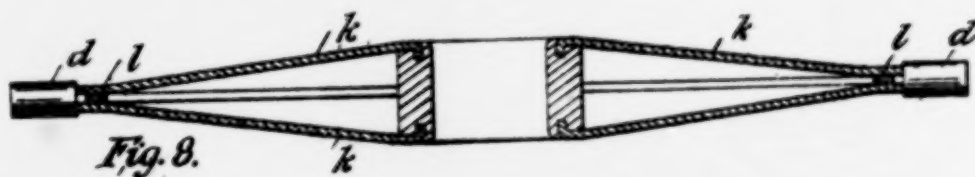
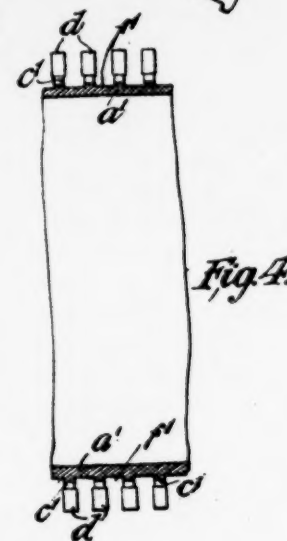
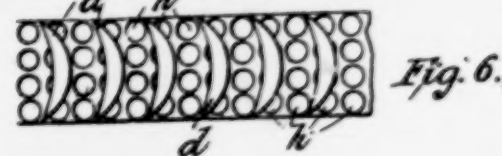
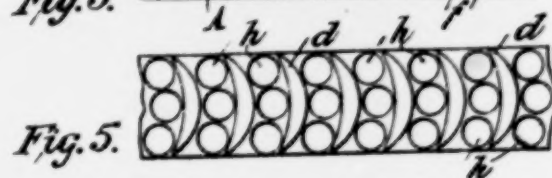
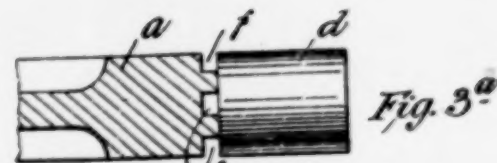
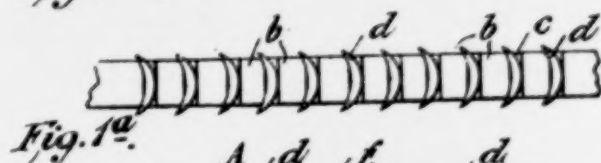
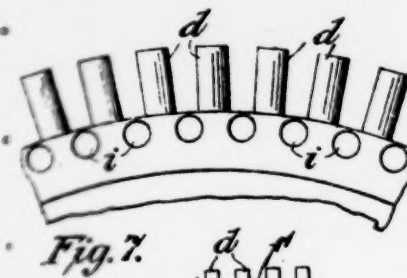
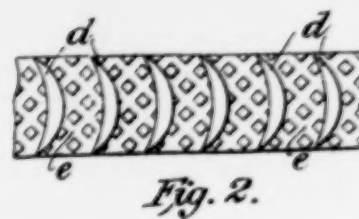
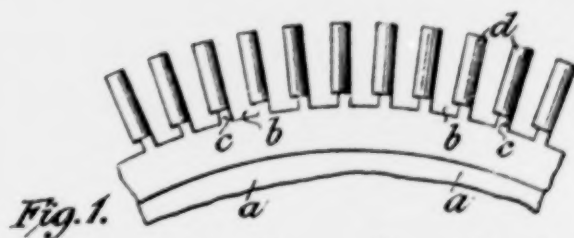
16. The bladed turbine element, hereinbefore described with reference to
Dated this 24th day of February, 1904.

MARKS & CLERK.

18, Southampton Buildings, London, W.C.
13, Temple Street, Birmingham, and
30, Cross Street, Manchester.

Agents.

(3rd Edition)



This Drawing is a reproduction of the Original on a reduced scale

ab.

2—207

#6

Address only
The Commissioner of Patents,
Washington, D. C.

RRM

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

Nov. 28, 1913.

BEFORE THE EXAMINER OF INTERFERENCES.

In the Matter of the Interference of

HARMETTA

vs.

DE FERRANTI.

INTERFERENCE NO. 36709.

Sir:

You are hereby informed that the preliminary statement of
de Ferranti has been received and filed.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Washington, D. C.

6—2051

Room 63.

2—215.

All communications should be addressed to

"The Commissioner of Patents,
Washington, D. C."

Paper No. 7.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

Washington, D. C., December 5, 1913.
Mailed " " "
Interference Division.

IN RE INTERFERENCE 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-entitled case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

The parties to the above-entitled interference are hereby notified that their preliminary statements are approved, and that testimony must be taken, forwarded, and printed in accordance with the published Rules of Practice of the office.

The dates of filing and the serial numbers of the applications are given, and the times for taking testimony and for final hearing are set as follows:

No testimony to be taken within thirty days.

Sebastian Ziani de Ferranti, filed Dec. 29, 1911, Ser. No. 668,464; division of application No. 208,034, filed May 14, 1904.

Testimony in chief to close March 5, 1914.

Johann Harmatta, filed December 3, 1903, Ser. No. 183,677; patented Dec. 3, 1912, No. 1046066.

Testimony to close April 6, 1914.

Rebuttal testimony of de Ferranti to close April 21, 1914.

Final hearing: June 23, 1914, at 11 a. m.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.

36,709—8

Dec. 11 1913.

U. S. Patent Office.

Mail Room.

Dec. 11 1913.

U. S. Patent Office.

New York, December 8th, 1913.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the interference JOHANN HARMATTA vs. SEBASTIAN ZIANI de FERRANTI, No. 36,709:

The undersigned, assignee of record of the United States Patent No. 1,046,066, involved in the above interference, hereby appoints Henry C. Townsend and Charles F. Tischner, Jr., constituting the firm of Townsend & Decker, 149 Broadway, New York, its attorneys, to prosecute said interference and to transact all business in the Patent Office connected therewith.

Signed at Lynn, in the County of Essex and State of Massachusetts, this 9th day of December 1913.

THOMSON ELECTRIC WELDING CO.

By W. O. DODGE,

Treasurer.

36,709 Letter No. 9

Address only
The Commissioner of Patents
Washington, D. C.

EEG

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON.

December 12, 1913.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Sir:

It is noted that Townsend and Decker, of 149 Broadway, New

York, N. Y., have been appointed attorneys for the party Harmatta in the above entitled interference.

Very respectfully,
W. F. WOOLARD,
Chief Clerk.
F.

S. Z. DE FERRANTI,
o/o SPEAR, MIDDLETON, DONALDSON & SPEAR,
Washington, D. C.

Letter No.

Address only
The Commissioner of Patents
Washington, D. C.

EEG

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON.

December 12, 1913.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Sirs:

As the assignee of entire interest in the patent of Johann Harmatta, involved in the above entitled interference, has intervened and appointed an attorney of its own selection, further correspondence will be conducted with said attorney.

Very respectfully,
W. F. WOOLARD,
Chief Clerk.
F.

O. E. DUFFY & SONS,
612 F St. N. W.
Washington, D. C.

Docket Clerk.
Dec. 31, 1913.
U. S. Patent Office.

Intf. No. 36,709, Paper No. 10.

Mail Room.
Dec. 31, 1913.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In the matter of the Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

Messrs. Spear, Middleton, Donaldson & Spear,
Victor Building,
Washington, D. C.

Sirs:

PLEASE TAKE NOTICE that on Monday, the 5th day of January 1913, at 10 a.m. or as soon thereafter as counsel can be heard, we shall call up the annexed petition before the Commissioner of Patents for his determination.

TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, December 30th, 1913.

Mail Room.
Dec. 31, 1913.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In the matter of the Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

To the Hon. Commissioner of Patents:

PETITION.

Your petitioner, Johann Harmatta, by his attorneys, Messrs. Townsend & Decker, respectfully shows that he is a party to the interference declared between his patent No. 1,046,066, dated De-

cember 3rd 1912, and an application filed by Sebastian Ziani de Ferranti on December 29th 1911, Serial No. 668,464, which de Ferranti application is alleged to be a division of his application filed May 14th 1904, Serial No. 208,034; that the divisional application was filed at such a date that the party de Farranti is compelled to rely upon the application of which the application in interference is alleged to be a division and in fact it has been stated by the attorneys for said de Ferranti that it is the intention to rely on said earlier application as a record date; that on December 10th 1913 your petitioner ordered a certified copy of the file wrapper, contents and drawings of the application Serial No. 668,464, as well as a certified copy of the file wrapper, contents and drawings of the application Serial No. 208,034, from which the application 668,464 is alleged to be a division; that your petitioner received a reply from the Patent Office under date of December 12th 1913 as follows:

"The Docket Clerk reports that you are not entitled to a copy of the divisional application as de Ferranti gains no advantage by reason of such application, he being the junior party to the proceeding."

As it is necessary to rely on the parent application and as the party de Ferranti intends to rely on such application as a record date, your petitioner prays that your Honor instruct the Docket Clerk or other proper officer to furnish your petitioner with a certified copy of the file wrapper, contents and drawings of the de Ferranti application Serial No. 208,034.

Respectfully submitted,

JOHANN HARMATTA,
By TOWNSEND & DECKER,
Attorneys.

New York, December 30th, 1913.

AFFIDAVIT OF SERVICE.

County of New York, State of New York, ss:

Henry A. Gens, being duly sworn, deposes and says that he is a clerk in the office of Messrs. Townsend & Decker, 149 Broadway, New York; that on Tuesday, December 30th 1913, he deposited with the Post-office authorities at New York City, New York, and caused to be sent prepaid, by registered mail, a sealed envelope addressed to Messrs. Spear, Middleton, Donaldson & Spear, Victor Building, Washington, D. C., as per attached registry slip, which envelope contained a copy of the accompanying petition.

HENRY A. GENS.

Subscribed and sworn to before me this 30th day of December 1913.

(Seal)

W. R. WARNER,
Notary Public.

Defendant's Exhibit No. 33.

493

Notary Public No. 4196, New York County, Register's No. 5237.

Commission expires March 30, 1915.

No. 70967.

Receipt for registered mail.

New York (Hudson Term Sta.), N. Y.

Dec. 30, 1913.

Registered.

Class postage prepaid. Postmaster, per P.

EEG

Intf. No. 36,709, Paper No. 11.

Address only

Paper No.

The Commissioner of Patents,
Washington, D. C.

2—201.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON,

January 2, 1914.

PETITION BY HARMATTA.

Sir:

The case of

DE FERRANTI

v.s.

HARMATTA,

INTF. No. 36,709,

will be heard by the Commissioner on the 8th day of January, 1914, at 11:30 A. M.

The hearings will commence at ten o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in inter-

ference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

THOMAS EWING,
Commissioner of Patents.

To S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

To Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York City.

6—1961

Docket Clerk.
Jan. 3, 1914.
U. S. Patent Office.

36,709—12

Mail Room.
Jan. 3, 1914.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In the matter of the Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHN HARMATTA.

No. 36,709.

STIPULATION.

It is hereby stipulated and agreed that the time for bringing motions in this case may be extended to and including February 4th 1914, and the Commissioner of Patents is respectfully requested to make an order in accordance herewith.

("S" in margin.)

TOWNSEND & DECKER,
Attorneys for Harmatta.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

New York, December 30th, 1913.

Room No. 261.

2-224

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

Paper No. 13.

HVB

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

January 5, 1914.

Mailed January 5, 1914.
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

6-1652

THOMAS EWING,
Commissioner of Patents.

The stipulation filed January 3, 1914, is approved, and in ac-
cordance therewith times are extended as follows:

The time for bringing motions to close February 4, 1914.

de Ferranti's testimony in chief to close April 5, 1914.

Harmatta's testimony to close May 5, 1914.

de Ferranti's rebuttal testimony to close May 20, 1914.

Final hearing: July 20, 1914, at 11 a.m.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
Jan. 31, 1914.
U. S. Patent Office.

36,709—14

UNITED STATES PATENT OFFICE.

In the matter of the Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHN HARMATTA.

No. 36,709.

STIPULATION.

It is hereby stipulated and agreed that the time for bringing motions in this case may be extended to and including March 4th 1914, and the Commissioner of Patents is respectfully requested to make an order in accordance herewith.

("Gr." in margin.)

TOWNSEND & DECKER,
Attorneys for Harmatta.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

New York, January 30th, 1914.

Recorded Vol. 112.
Page 253.
January 8, 1914.

Intf. No. 36,709. Paper No. 15.

M.S.D.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

PATENT INTERFERENCE No. 36,709.

PETITION.

ELECTRIC WELDING.

Application of Sebastian Ziani de Ferranti filed Dec. 29, 1911.
No. 668,464, division of application filed May 14, 1904.

Patent granted Johann Harmatta Dec. 3, 1912, No. 1,046,066, on application filed Dec. 3, 1903.

Messrs. Spear, Middleton, Donaldson & Spear for de Ferranti.
Messrs. Townsend & Decker for Harmatta.

This is a petition by Harmatta requesting that he be given copies of application No. 208,034 of de Ferranti.

The chief clerk has written Harmatta to the effect that he was not entitled to a copy of this de Ferranti case, although de Ferranti had referred to it in his subsequent application involved in this interference, since, as the chief clerk held, de Ferranti gained no advantage by reason of this prior application.

From the dates set up in the preliminary statement of de Ferranti, it is apparent that in order to win in this interference he must rely on his original application No. 208,034, and to determine whether or not the invention covered by the issue is disclosed in said original application, Harmatta is entitled to see it, and the petition should be and is hereby granted.

J. T. NEWTON,
Assistant Commissioner.

February 2, 1914.

Address only
The Commissioner of Patents.
Washington, D. C.

Intf. No. 36,709. Paper No. 16.
EEG Letter No.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON,

February 2, 1914.

In the matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTF. No. 36,709.

PETITION.

Sir:

You are hereby informed that the above petition has been granted

by the Assistant Commissioner. Please find enclosed herewith a copy of the decision.

By direction of the Commission:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York City.

Room No. 261.
Address only

2-224

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.
LBF

Paper No. 17.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

February 3, 1914.
Mailed February 3, 1914.
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

The stipulation filed January 31, 1914, is approved and in accordance therewith the time within which motions may be brought in this case is extended to March 4, 1914.

In view of the above extension the times for taking testimony and for final hearing are extended as follows:

Testimony in chief of De Ferranti to close May 4, 1914.

Testimony of Harmatta to close June 4, 1914.

Rebuttal testimony of De Ferranti to close June 19, 1914.

Final hearing August 19, 1914, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
Feb. 27, 1914.
U. S. Patent Office.

36,709—18.

UNITED STATES PATENT OFFICE.

In the matter of the Interference:

DE FERRANTI

v/s.

HARMATTA.

No. 36,709.

STIPULATION.

Owing to the delay in the obtaining of a copy of the de Ferranti original application involved in this matter, it is hereby stipulated and agreed that the time for bringing motions in this case may be extended to and including April 4th 1914 and the Commissioner of Patents is respectfully requested to make an order in accordance herewith.

TOWNSEND & DECKER,
Attorneys for de Ferranti.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for Harmatta.

New York, February 26th, 1914.

Room No. 261.

2-224

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.
JHD

Paper No. 19.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

February 28, 1914.
Mailed February 28, 1914.
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

6-1652

THOMAS EWING,
Commissioner of Patents.

The stipulation filed February 27, 1914, is approved, and in
accordance therewith the time within which motions may be brought
in this case is extended to April 4th, 1914.

In view of the above extension the times for taking testimony
and for final hearing are extended as follows:

Testimony in chief of De Ferranti to close June 4, 1914.

Testimony of Harmatta to close July 6, 1914.

Rebuttal testimony of De Ferranti to close July 21, 1914.

Final hearing September 22, 1914, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
Mar. 31, 1914.
U. S. Patent Office.

36,709--20

UNITED STATES PATENT OFFICE.

In the matter of the Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

STIPULATION.

S
Notice

IT IS HEREBY STIPULATED AND AGREED by and between counsel for the respective parties that the time for bringing motions in this case may be extended to and including May 4th, 1914, and the Commissioner of Patents is respectfully requested to make an order in accordance herewith.

TOWNSEND & DECKER,
Attorneys for Harmatta.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

New York, March 30th, 1914.

Room No. 261.

2--224.

Address only
"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.
LBF

Paper No 31.

Defendant's Exhibit No. 33.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.

April 1, 1914.
Mailed April 1, 1914.
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

VS.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

6-1652

Commissioner of Patents.

The stipulation filed March 31, 1914, is approved and in accordance therewith the time within which motions may be brought in this case is extended to May 4, 1914.

In view of the above extension the times for taking testimony and for final hearing are extended as follows:

Testimony in chief of De Ferranti to close July 6, 1914.

Testimony of Harmatta to close Aug. 6, 1914.

Rebuttal testimony of De Ferranti to close Aug. 21, 1914.

Final hearing October 21, 1914, at 11 A. M.

Notice is given, however, that no further extension of the time within which motions may be brought will be granted.

H. E. STAUFFER,

Examiner of Interferences.

Docket Clerk.
May 4, 1914.
U. S. Patent Office.
Mail Room.
May 4, 1914.
U. S. Patent Office.

36,709—22

IN THE UNITED STATES PATENT OFFICE.

In re Interference

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

New York, May 2nd, 1914.

Messrs. Spear, Middleton, Donaldson & Spear,
Victor Building,
Washington, D. C.

Sirs:

PLEASE TAKE NOTICE that on Wednesday, the 6th day of May 1914, at 10 o'clock a. m. or as soon thereafter as counsel may be heard before the Examiner of Interferences, we shall move to transmit the accompanying motion for dissolution of this interference to the proper Primary Examiner for his determination and shall also move for a stay of proceedings pending the final determination of said motion.

TOWNSEND & DECKER,
Attorneys for Harmatta.

AFFIDAVIT OF SERVICE.

State of New York, County of New York, ss:

Henry A. Gens, being duly sworn, deposes and says that he is a clerk in the office of Messrs. Townsend & Decker, 149 Broadway, New York; that on Saturday, May 2nd 1914, he deposited with the Post-office authorities at New York City, New York, and caused to be sent prepared by registered mail a sealed envelope addressed to Messrs. Spear, Middleton, Donaldson & Spear, Victor Building, Washington, D. C., as per attached registry receipt, which envelope contained a copy of the accompanying motion papers.

HENRY A. GENS.

Subscribed and sworn to before me this 2nd day of May 1914.
(Seal)

GEORGE E. BROWN,
Notary Public.

FIRST:

That the party Ferranti has no right to make the claims forming the subject of the interference for the reason that said claims are a departure from and for a different invention from that which is set forth and disclosed in the original application of which this purports to be a division, since the disclosure made in the original application is exclusively for a process of butt-welding the end of a turbine blade on to its carrier or wheel, whereas the invention claimed in the divisional application by the claims involved in the interference is for a process differing essentially from a mere butt-welding process.

SECOND:

That the party Ferranti has no right to make the claims forming the subject of the interference for the reason that they are based on new matter inserted in the divisional application, for which there is no foundation in the original application, to wit: the paragraph beginning with line 3 page 3, reading as follows:

"It will thus be seen that on the completion of the welding operation the blades will be attached to the wheel or disk by a plurality of welds isolated from one another."

In the original application there is no foundation for claims for a process of welding surfaces to each other at isolated spots of weld as called for in the counts of the interference.

THIRD:

That the party Ferranti has no right to make the claims forming the subject of the interference by reason of the fact that, as shown by the record of his original application, papers Nos. 27, 28 and 29, he acquiesced in the rejection of claims for the same substantial invention as that for which he now seeks patent and did not make the claims in issue for that invention until more than four years after the publication of the United States Patent No. 928,701, dated July 20th 1909, to A. F. Reitzel, containing said claims, and for many years after the invention had gone into general public and well-known commercial use.

TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, N. Y., May 2nd 1914.

506

Defendant's Exhibit No. 33.

Room No. 261.

2—224.

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

Paper No. 23.

LBF

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.

May 6, 1914.
Mailed May 6, 1914.
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6—1652

This case is before me on motion by Harmatta filed May 4, 1914,
to transmit a motion to dissolve.

The motion is set forth in three parts, which will be considered
in the order given.

Parts 1 and 2 purport on their face to attack the right of De
Ferranti to make the claims of the issue. An inspection of the
reasons given, however, makes it apparent that the moving party
does not contend that De Ferranti can not make the claims in
the application specifically involved, but rather that said applica-
tion is not a proper division of his earlier case, No. 208,034, of
which he has been given the benefit in setting up the interference.

It must be held that the question here presented is not that of
the right of De Ferranti to make the claims, but the sufficiency of
this party's parent application as a basis for determining his *prima*
facie rights. Even should the examiner agree with the moving
party and conclude that the parent case does not support the issue,
he could not dissolve the interference. The proceeding would con-

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tinue as between De Ferranti's alleged divisional application and the patent to Harmatta. The question presented is really one of evidence and should be disposed of by the examiner of interferences in deciding the case upon its merits. The situation is substantially identical with that in the case of Struble vs. Young, 121 O. G., 339; 1906 C. D., 95. In that case the question involved was the sufficiency of an earlier application of Young to support the issue. The examiner of interferences refused to transmit, and his action was sustained by the Commissioner who stated that the question of the sufficiency of the earlier application to support the issue should be used as a basis for the award of priority. In that case reference was also made to the earlier case of Raulet and Nicholson v. Adams, 114 O. G., 1827; 1905 C. D., 55.

The third part of the motion raises the question of estoppel. This likewise is a question to be raised in the final disposition of the case, and not by dissolution. This was so decided in the case of Manly v. Williams, 21 Gourick, 85-11, not published in the Official Gazette.

The motion to transmit is denied.

Limit of appeal: May 16, 1914.

The taking of testimony is suspended.

H. E. STAUFFER.

Examiner of Interferences.

Docket Clerk.

Intf. No. 36,709. Paper No. 24.

May 16, 1914.

U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHN HARMATTA.

No. 36,709.

APPEAL TO THE COMMISSIONER.

The party Harmatta to the above-entitled interference hereby appeals to the Honorable Commissioner of Patents in person from the decision of the Examiner of Interferences rendered May 6th 1914 refusing to transmit to the Primary Examiner the Motion to Dissolve brought by Harmatta.

The following are assigned as the reasons of appeal:

1. It was error to refuse to transmit the first and second grounds of the Motion to Dissolve for the following reasons:

(a) The Examiner erred in holding that even should the Primary Examiner agree with Harmatta in the contention raised by grounds 1 and 2 of the Motion to Dissolve that the Examiner could not dissolve the interference.

(b) The Examiner erred in holding that the interference would continue even if the contentions raised in grounds 1 and 2 of the Motion were sustained.

(c) The Examiner erred in holding that the question presented was one of evidence for the reason that the question raised relates primarily to the right of the party Ferranti to make the claims, based on matters ordinarily passed on by the Primary Examiner and by whom such matters should be reviewed.

(d) The Examiner erred in treating the Motion to Dissolve as being the same as a motion to shift the burden of proof.

2. The Examiner erred in refusing to transmit the third ground of the Motion for the reason that that ground raises questions which should be reviewed by the Primary Examiner before the interference be proceeded with.

JOHANN HARMATTA,
By TOWNSEND & DECKER,
Attorneys.

New York, May 15th, 1914.

EEG 2—201

Address only

The Commissioner of Patents,
Washington, D. C.

Paper No. 25.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

WASHINGTON,

May 16, 1914.

APPEAL BY HARMATTA ON MOTION.

ir:

The case of

DE FERRANTI

vs.

HARMATTA,

INTF. No. 36,709,

It will be heard by the Commissioner on the 28th day of May, 1914.
The hearings will commence at ten o'clock, and as soon as the

argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

THOMAS EWING,
Commissioner of Patents.

To Sebastian Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

To Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York, N. Y.

6—1961

Docket Clerk.

May 28, 1914.

U. S. Patent Office.

Intf. No. 36,709. Paper No. 26.

UNITED STATES PATENT OFFICE.

INTERFERENCE No. 36,709.

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

BEFORE THE HONORABLE COMMISSIONER OF PATENTS ON APPEAL
FROM THE DECISION OF THE EXAMINER OF INTERFERENCES
REFUSING TO TRANSMIT HARMATTA'S MOTION TO DISSOLVE.

BRIEF FOR HARMATTA.

This case comes up on appeal by the party Harmatta from the decision of the Examiner of Interferences dated May 6th 1914

refusing to transmit to the Primary Examiner the Motion to Dissolve brought by Harmatta.

The motion to dissolve embodies three grounds:

The first ground denies the right of the party de Ferranti to make the claims forming the subject of the interference for the reason that they are a departure from the disclosure made in the original application filed by de Ferranti and upon which he relies for a record date in this interference.

The second ground denies the right of the party de Ferranti to make the claims forming the subject of the interference for the reason that they are based on new matter inserted in the divisional application, for which there is no foundation in the original application from which the application in interference purports to be a division, the date of the original application being relied upon as a record date for the purpose of the interference.

The third ground alleges that the party de Ferranti has no right to make the claims for the reasons that he acquiesced in the rejection of the claims drawn to the same substantial invention in his original application and is therefore now estopped from asserting his right to these claims.

The interference is between a patentee, Harmatta, and an applicant, de Ferranti. Harmatta filed his application on December 3rd 1903, which matured into a patent on December 3rd 1912. De Ferranti filed the application involved in this interference on December 29th 1911 as an alleged divisional application of his original application filed on May 14th 1904. Both de Ferranti's original and his alleged divisional applications are still pending before the Patent Office.

The first and second grounds of the motion to dissolve, alleging departure from the original disclosure and the incorporating of new matter in the divisional, will first be discussed.

As will appear by the record of de Ferranti's divisional application, it is absolutely necessary for him to rely upon the record date of his original application in order to obtain any right whatever to make the claims forming the subject of the interference, for the reason, as will appear by such record, that there were statutory bars to de Ferranti making these claims in his divisional application if he did not have a disclosure sufficient in his original upon which to base the claims of the interference, to wit:

French patent to Egel No. 336,187, dated March 1, 1904;

British patent to Harmatta No. 22,981 of 1903;

United States patent to Rietzel, No. 928,701, dated July 20, 1909,

it being borne in mind that de Ferranti's divisional application was not filed until December 29th 1911. Incidentally, we desire to state that the above Harmatta British patent and the Egel French patent make identically the same disclosure as the Harmatta United States patent involved in this interference.

These statutory bars are part of de Ferranti's official record in

the Patent Office and should be taken judicial notice of by the Examiner of Interferences.

It was necessary that the Primary Examiner should decide that de Ferranti had the right to make the claims in his original application or otherwise he would have been compelled to reject the divisional application on the statutory ground either that the invention was contained in prior patents to Egel, Harmatta and Rietzel, which were publications more than two years prior in date to the filing of the de Ferranti application, or else on the ground that the application was not filed within one year after the date of the filing of the de Ferranti foreign application, which foreign application was matured as a patent (see the British patent No. 11,921 of 1903).

The present motion merely seeks a review of that decision of the Primary Examiner. If, on review, he comes to a different conclusion, the interference would necessarily be dissolved and could not, provided his action in review stands, ever be declared again because of the existence of the statutory bars.

The Examiner of Interferences in his decision refusing to transmit these grounds of the motion to dissolve on the authority of the cases cited by him evidently treated the said grounds as either a motion to shift the burden of proof, or, in effect, that even should the Primary Examiner (it being understood that under the latest modification of the Rules the Law Examiner is substituted for the Primary Examiner) agree with the substance of the first and second grounds or either of them of the motion to dissolve and conclude that de Ferranti had no foundation in his original case for the claims of the interference, that even then he could not dissolve the interference and that the interference would still persist.

Both of the above views are entirely erroneous, in the first place with regard to the shifting of the burden of proof, because there is no such motion before the Examiner of Interferences for the reason that Harmatta is the senior party to the interference at this time, he having filed his application on December 3rd 1903 and de Ferranti did not file even his original application until May 14th 1904, so that, even should it be decided that de Ferranti had such a disclosure in his original case as would warrant the claims of the interference he would still remain the junior party, Harmatta, the moving party and by whom this appeal is taken, being under any circumstances the senior party. In the second place, should the Primary Examiner or the Law Examiner as the case may be, decide that there is no warrant for the claims of the interference in de Ferranti's original case, he would necessarily have to dissolve the interference owing to the statutory bars existing against the making of the claims in the alleged divisional application as appears by the record of said application and as above referred to. In the cases cited by the Examiner of Interferences the interference would still have persisted or would have to be re-declared should the Primary Examiner have decided that the applicant had sufficient

foundation in his original application to make the claims made in the divisional application, the divisional application being involved in the interference. Therefore, the primary reason for refusing to transmit the motion to dissolve in the cited cases was that no matter how the Primary Examiner might decide the motion the interference would persist. This is an entirely different state of facts than is present in the present case, which may be an unusual one but is nevertheless a pertinent one.

AS ABOVE STATED, IN THE PRESENT CASE THE INTERFERENCE WOULD NECESSARILY HAVE TO BE DISSOLVED IF IT IS FOUND THAT DE FERRANTI HAS NO FOUNDATION IN HIS ORIGINAL CASE UPON WHICH TO BASE THE CLAIMS OF THE INTERFERENCE.

To state the case hypothetically, assuming that the Primary Examiner decides that de Ferranti has no right to make the claims forming the subject-matter of the interference for the reason that the disclosure in his original application as filed on May 14th 1904 had no disclosure or foundation for them, the Primary Examiner would have to take judicial notice of the statutory bars in the divisional application as such bars are of record in that application and would necessarily have to dissolve the interference. As the Examiner necessarily has to take judicial notice of these statutory bars for the reason above stated, it was not necessary to specifically raise them in the motion.

Therefore, it was clear error for the Examiner of Interferences to state that the interference proceeding would continue as between de Ferranti's alleged divisional application and the Harmatta patent.

It will be found in every case reported where the motion to dissolve was not transmitted, where such motion related to an original and a divisional application, that the circumstances were such that the granting of the motion to dissolve would not necessarily result in the final determination of the conflict between the applicants or between the applicant and the patentee but that the interference would either have to be renewed or re-declared between the same or other pending applications. As far as can be gathered in each of these decisions, there was no question of the existence of a statutory bar against the making of the claims in the divisional application, of which statutory bar the Examiner would have to take judicial notice.

In conclusion, with regard to the peculiarities of the present case, it must again be reiterated here that should the Primary Examiner agree with the substance of the first and second grounds of the motion, he would necessarily dissolve the interference as part of his duty on account of the statutory bars of which he is well aware and which absolutely prevent the making of the claims in the application specifically mentioned in the interference.

With regard to the third ground raised by the motion to dissolve and relating to the question of acquiescence in the rejection of

claims and estoppel from reasserting such claims, the questions here raised are such as should necessarily be passed upon before putting the parties to the expense of an actual contest.

Under this ground is to be decided the question whether an applicant, after having previously acquiesced in the rejection of claims for the same substantial subject-matter, can again re-assert such claims after delaying for a period of more than four years after he had notice of the United States patent to Rietzel No. 928,701, which contained the identical claims made the subject of the present interference and copied by the party de Ferranti, not from the Rietzel patent, but from the Harmatta patent.

It is respectfully submitted that the Examiner of Interferences was clearly in error in not considering all the peculiar circumstances of this case which differentiate it over those cases heretofore decided and in not transmitting the motion to dissolve, and that his decision should in justice and equity be reversed.

JOHANN HARMATTA,
By TOWNSEND & DECKER,

Attys.

New York, May 26th, 1914.

Hearing:
May 28, 1914.

Recorded Vol. 113.
Page 430.

SET
Intf. No. 36,709. Paper No. 27.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

v/s.

HARMATTA.

PATENT INTERFERENCE No. 36,709.

APPEAL ON MOTION.

ELECTRIC WELDING.

Application of Sebastian Z. de Ferranti filed December 29, 1911,
No. 668,464, division of application filed May 14, 1904.
Patent granted Johann Harmatta December 3, 1912, No. 1,046,066,
on application filed December 3, 1903.

Messrs. Spear, Middleton, Donaldson & Spear for de Ferranti.
Messrs. Townsend & Decker for Harmatta.

This is an appeal by Harmatta from the decision of the examiner of interferences refusing to transmit a motion to dissolve.

The first two grounds of the motion allege that de Ferranti has no right to make the claims, since his application directly involved herein is not a division, as claimed, of a prior application. The third ground alleges that for specific reasons de Ferranti is now estopped to make the claims. The transmission of the motion as to the last ground is not urged on this appeal.

The examiner of interferences refused to transmit the motion on the ground that the question was one of evidence, since so far as alleged, even if the later application of de Ferranti was not a division of the former, the interference would still exist.

The motion makes no reference to any bar to the grant of a patent to de Ferranti, but it is urged that the record shows the existence of such a bar unless the invention is disclosed in his earlier application, and that therefore if the examiner should agree with the substance of the first and second grounds of the motion, the interference must necessarily be dissolved.

If the moving party desired to urge at the hearing on the motion that certain patents constitute a bar to the grant of the patent to de Ferranti, it should have been so stated in the motion, and the examiner of interferences properly refused to transmit the motion as presented.

The question whether the invention is disclosed in de Ferranti's earlier application will necessarily be raised in connection with the question of priority, and as both parties are relying upon foreign applications and de Ferranti does not allege a date of introduction of the invention into this country prior to Harmatta's filing date, a decision that the invention is not disclosed in the earlier application would, so far as appears, result in an award of priority to Harmatta. Furthermore, there is apparently an inconsistency between the first two grounds of the motion and the third, since the question whether one application is a division of another is not dependent upon the time when claims were presented in the earlier application, but upon the disclosure of the two cases.

Under all the circumstances I do not feel justified in remanding the interference to the law examiner for consideration of the question of dissolution.

The decision of the examiner of interferences is affirmed.

R. F. WHITEHEAD,
Assistant Commissioner.

June 5, 1914.

Address only
The Commissioner of Patents,
Washington, D. C. EEG

Letter No. 28

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

June 5, 1914.

In the matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTF. NO. 36,709.

APPEAL ON MOTION.

Sir:

You are hereby informed that the decision of the Examiner of Interferences has been affirmed by the Assistant Commissioner. Please find enclosed herewith a copy of the decision.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

Sebastian Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York City.

Room No. 261.

2—224

Address only

"The Commissioner of Patents,
Washington, D. C.,"

Paper No. 29.

and not any official by name.

IAW

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

June 9, 1914.

Mailed June 9, 1914.

Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

v.s.

HARMATTA.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

6—1652

Commissioner of Patents.

The Assistant Commissioner having affirmed the decision of the
examiner of interferences denying transmission of Harmatta's
motion to dissolve, proceedings are resumed and the times for tak-
ing testimony and for final hearing are reset as follows:

Testimony in chief of De Ferranti to close August 10, 1914.

Testimony of Harmatta to close September 10, 1914.

Rebuttal testimony of De Ferranti to close Sept. 25, 1914.

Final hearing: November 25, 1914, at 11 A. M.

H. E. STAUFFER,

Examiner of Interferences.

Docket Clerk.
June 10, 1914.
U. S. Patent Office.

36,709—30.

Mail Room.
June 10, 1914.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

New York, June 8th, 1914.

Messrs. Spear, Middleton, Donaldson & Spear,
Victor Building,
Washington, D. C.

Sirs:

PLEASE TAKE NOTICE that on Tuesday, the 16th day of June 1914, at 10 o'clock a.m. or as soon thereafter as counsel may be heard before the Examiner of Interferences, we shall move to transmit the accompanying amended motion for dissolution of this interference to the Law Examiner for his determination and shall also move for a stay of proceedings pending the final determination of said motion.

TOWNSEND & DECKER,
Attorneys for Harmatta.

AFFIDAVIT OF SERVICE.

State of New York, County of New York, ss:

Henry A. Gens, being duly sworn, deposes and says that he is a clerk in the office of Messrs. Townsend & Decker, 149 Broadway, New York; that on Tuesday, June 9th 1914, he deposited with the Post-office authorities at New York City, New York, and caused to be sent prepaid by registered mail a sealed envelope addressed to Messrs. Spear, Middleton, Donaldson & Spear, Victor Building, Washington, D. C., as per attached registry receipt, which envelope contained a copy of the accompanying motion papers.

HENRY A. GENS.

Sworn to and subscribed before me this 9th day of June 1914.

(Seal.)

W. R. WARNER,
Notary Public.

Notary Public, Bronx County.
 Certificate filed in New York County, No. 114.
 New York register No. 5257.
 Term expires March 30, 1915.

No. 39527.

Receipt for registered mail.

New York (Hudson Term Sta.) L.I.
 Registered
 Jun 9 1914

1 class postage prepaid. Postmaster, per

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

MOTION FOR TRANSMISSION.

NOW COMES JOHANN HARMATTA, by his duly authorized attorneys, and moves that the Honorable Examiner of Interferences transmit the accompanying amended motion for dissolution of this interference to the Law Examiner for his determination and refer to the annexed affidavit of Charles F. Tischner Jr. in support thereof. It is also moved that a stay of proceedings be granted pending the final determination of said motion.

TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, N. Y., June 8th, 1914.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

AMENDMENT.

NOW COMES JOHANN HARMATTA, by his attorneys, and amends his motion to dissolve filed May 4th, 1914, in the following respects:

Change "Primary Examiner" to "Law Examiner" in the caption.

Erase the period at the end of the first and second grounds of the motion and add the following to each ground: "and statutory bars appearing of record in the case exist against such claims when made in the present application standing by itself, to wit: British Patent to Harmatta No. 22,981 of 1903; U. S. Patent to Rietzel No. 928,701, dated July 20, 1909; and French Patent to Egel No. 335,889, dated Feb. 18, 1904."

Erase the third ground of the motion to dissolve, so that said motion to dissolve as amended will read as follows:

"IN THE UNITED STATES PATENT OFFICE.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

BEFORE THE LAW EXAMINER.

MOTION TO DISSOLVE.

NOW COMES JOHANN HARMATTA, a party to the above-entitled interference, by his attorneys, and moves that the interference be dissolved on the following grounds:

FIRST:

That the party Ferranti has no right to make the claims forming the subject of the interference for the reason that said claims are a departure from and for a different invention from that which is set forth and disclosed in the original application of which this purports to be a division, since the disclosure made in the original application is exclusively for the process of butt-welding the end of a turbine blade on to its carrier or wheel, whereas the invention claimed in the divisional application by the claims involved in the interference is for a process differing essentially from a mere butt-welding process and statutory bars appearing of record in the case exist against such claims when made in the present application standing by itself, to wit: British patent to Harmatta No. 22,981 of 1903; U. S. Patent to Reitzel No. 928,701, dated July 20, 1909; and French Patent to Egel No. 335,889, dated Feb. 18, 1904.

SECOND:

That the party Ferranti has no right to make the claims forming the subject of the interference for the reason that they are based on new matter inserted in the divisional application, for which there

is no foundation in the original application, to wit: the paragraph beginning with line 3 page 3, reading as follows:

'It will thus be seen that on the completion of the welding operation the blades will be attached to the wheel or disk by a plurality of welds isolated from one another.'

In the original application there is no foundation for claims for a process of welding surfaces to each other at isolated spots of weld as called for in the counts of the interference and statutory bars appearing of record in the case exist against such claims when made in the present application standing by itself, to wit: British Patent to Harmatta No. 22,981 of 1903; U. S. Patent to Rietzel No. 928,701, dated July 20, 1909; and French Patent to Egel No. 335,889, dated Feb. 18, 1904.

TOWNSEND & DECKER,
Attorneys for Harmatta."

TOWNSEND & DECKER,
Attys.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

AFFIDAVIT.

County of New York, State of New York, ss:

Charles F. Tischner, Jr., being duly sworn, deposes and says that he is a member of the firm of Townsend & Decker, 149 Broadway, New York, and has direct charge of this interference; that said firm is the attorney of record for the party Harmatta in the above-entitled interference; that as now appears it was inadvertence not to incorporate in the original motion to dissolve a reference to the statutory bars existing against the making of the interfering claims in the alleged divisional application of Ferranti; that said inadvertence did not appear until the Examiner of Interferences refused to transmit the motion to dissolve on the ground that even if the allegations made in the motion were correct the interference could not be dissolved and such holding upheld by the Commissioner on appeal by decision dated June 5th 1914; that the inadvertence came

about by deponent's belief that it was not necessary to specifically call the Examiner's attention in said motion to the statutory bars which would automatically and necessarily apply if the main ground of the motion were upheld and which are of record in Ferranti's alleged divisional application and that any such holding that it was necessary to refer to them in the motion, as held by the Commissioner, came as a complete surprise; that it was deponent's firm belief that the Examiner would be compelled to take judicial notice of the statutory bars appearing in the record of said Ferranti alleged divisional application and further deponent saith not.

C. F. TISCHNER, JR.

Subscribed and sworn to before me this 9th day of June 1914.

W. R. WARNER,

(Seal)

Notary Public.

Notary Public—Bronx County. Certificate filed in New York County No. 114, New York Register No. 5257. Term expires March 30, 1915.

2—224

Room No. 261

Address only

"The Commissioner of Patents,

Washington, D. C.,"

and not any official by name

LBF

Paper No. 31.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

June 18, 1914.

Mailed " " "

Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

This case is before me on a motion by Harmatta to transmit an amended motion to dissolve.

De Ferranti is involved in the interference on an application filed December 29, 1911, which is stated in the declaration to be a division of an earlier application No. 208,034, filed May 14, 1904.

In the original motion it was alleged in substance that De Ferranti is not entitled to make the claims because the invention is not disclosed in his early application, no reference being made to the divisional application. This motion was refused transmission on the ground that the right of De Ferranti to make the claims in his application directly involved was not attacked, and hence the interference would not be dissolved even if the early application were held not to support the issue. The refusal to transmit was affirmed by the Commissioner.

The amended motion also attacks the right of De Ferranti to make the claims on the ground that the invention is not present in his early application, and in addition alleges that a statutory bar in the form of several patents exists against the second application. As now framed it is believed the motion should be transmitted. If the early application of De Ferranti does not support the issue, he must then rely upon his second application, and if this application is anticipated by the patents referred to in the motion, dissolution of the interference will result. These are questions which it is believed should be considered by the Law Examiner.

At the hearing some objection to transmission of the motion was made in behalf of De Ferranti on the ground of delay in presenting the second motion. While some delay has occurred it is noted that the amended motion was filed promptly after the decision of the Commissioner, and under the circumstances of the case it is deemed proper to transmit the same.

The motion is granted, and the interference is transmitted to the Law Examiner.

The taking of testimony is suspended.

H. E. STAUFFER,
Examiner of Interferences.

Address only
The Commissioner of Patents,
Washington, D. C.

F-EEG

36,709, Letter No. 32.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

June 19, 1914.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE NO. 36,709.

Sir:

You are hereby informed that a hearing on the motion filed by Harmatta for dissolution has been fixed before the Law Examiner, Room 273, for Thursday, July 23, 1914, at 10 A. M.

This is in accordance with the change in the rules of practice published May 12, 1914, 202 O. G., page 634.

Very respectfully,

W. F. WOOLARD,

Chief Clerk.

F.

Sebastian Z. de Ferranti,

c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,

c/o Townsend & Decker,
149 Broadway, New York City.

Docket Clerk.
 July 16, 1914.
 U. S. Patent Office.

36,709—33.

IN THE UNITED STATES PATENT OFFICE,

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

It is hereby stipulated and agreed by and between counsel for the parties to the above entitled case, that the hearing of the motion for the dissolution of the interference now set for hearing on Thursday, July 23, be postponed 30 days: the Honorable Commissioner of Patents consenting thereto.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.
 TOWNSEND & DECKER,
Attorneys for Harmatta.

E-EEG

36,709.

Letter No. 34.

Address only
 The Commissioner of Patents,
 Washington, D. C.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

July 21, 1914.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Sir:

You are hereby informed that the hearing before the Law Ex-

aminer on the motion filed by Harmatta for dissolution, has been continued to Wednesday, September 2, 1914, at 2 P. M.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
J.

S. Z. de Ferranti,

c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,

c/o Townsend & Decker,
149 Broadway, New York City.

Docket Clerk.

Aug. 26, 1914.

U. S. Patent Office.

36,709—35.

IN THE UNITED STATES PATENT OFFICE,

BEFORE THE EXAMINER OF INTERFERENCES.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

It is hereby stipulated and agreed by and between counsel for the parties to the above entitled case, that the hearing of the motion for the dissolution of the interference now set for hearing on Wednesday September 2d, be postponed thirty days, the Honorable Commissioner of Patents consenting thereto.

TOWNSEND & DECKER,
Attorneys for Harmatta.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.

526

Defendant's Exhibit No. 33.

Address only
The Commissioner of Patents,
Washington, D. C.

36,709.

Letter No. 36.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

Aug. 27, 1914.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

ELECTRIC WELDING.

No. 36,709.

Sir:

You are hereby informed that the hearing before the Law Examiner for September 2, 1914, has been postponed to Friday, October 2, 1914 at 2 p. m.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. De Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

J. Harmatta,
c/o Townsend & Decker,
149 Broadway, New York, N. Y.

Docket Clerk.
Sep. 29, 1914.
U. S. Patent Office.

36,709—37.

IN THE UNITED STATES PATENT OFFICE,
BEFORE THE EXAMINER OF INTERFERENCES.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

IT IS HEREBY STIPULATED AND AGREED by and between counsel for the respective parties that the hearing of the Mo-

tion to Dissolve this Interference now set for hearing on Friday, October 2nd, 1914, be postponed until November 16th 1914, or as soon thereafter as counsel can be heard, the Honorable Commissioner of Patents consenting.

TOWNSEND & DECKER,
Attorneys for Harmatta.
SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.

On request of counsel for Harmatta.
New York, September 28th. 1914.

Address only
The Commissioner of Patents,
Washington, D. C.

36,709. Letter No. 38.
EEG

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

September 30, 1914.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Sir:

You are hereby informed that the hearing before the Law Examiner on the motion for dissolution filed by Harmatta, has been continued to Monday, November 16, 1914, at 10 A. M.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
141 Broadway, New York City.

Docket Clerk.
Nov. 12, 1914.
U. S. Patent Office.

36,709—39.

IN THE UNITED STATES PATENT OFFICE:

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

BEFORE THE LAW EXAMINER.

This case comes before your Honor on motion for dissolution brought by Harmatta, alleging that de Ferranti has not right to make the claims.

The motion to dissolve is made on two grounds: first, that the claims forming the issue are a departure from the disclosure made in the original application; and second, that the claims constituting the issue are based on new matter inserted in the divisional application for which there is no foundation in the original application.

With regard to the first ground, the applicant would state that the claims in the divisional application are in no case a departure from and for a different invention from that which is set forth in the original application from which the present application in Interference is a divisional. They are simply generic claims which include matter which applicant originally claimed specifically.

Although the disclosure in the original application was for a process of welding the end face of a turbine blade onto the face of its carrier, yet there was nevertheless present the broad invention of welding together at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

It is a well-recognized point in United States patent practice that the only limitation to the claims in an applicant's patent is the state of the art to which the application relates. This is well settled by the case of *Hill vs. Hodge*, 12 App. D. C., 528, wherein the court said:

"An inventor making any generic invention necessarily produces some species of it, and the fact that he has never thought of other specific forms can not deprive him of his right to a broad claim. The inventor may not regard his invention at the time it is produced as any broader than his specific form:

but the question for consideration is not as to his opinion, but is one of fact."

See also the case of *Ryder vs. Townsend*, 188 F., page 807:

"And when an inventor makes an invention and in his specification points out a specific construction, he may claim the specific construction and also have a general broad claim, and when this is in order to sustain the broader claim it is not necessary for the patentee to point out in his patent that the specific construction shown is not essential to the invention. The law gives him ample protection whether he does or not."

Although the present application discloses a process for welding turbine blades onto their carrying elements, yet the applicant submits that it is unnecessary that the claims be limited to the specific embodiment which he has shown in his specification.

In the present divisional application the claims are not limited to a process for electrically welding turbine blades to their carrying elements, but are independent of such application as the state of the art cited against this case enabled the applicant to make such claims.

It might also be stated at this juncture, that the same point was raised by the Primary Examiner during the prosecution of the divisional application, and in view of the arguments set forth he withdrew from this attitude, allowed the claims to be inserted, and declared the interference.

With regard to the alleged statutory bars appearing of record to wit: British Patent to Harmatta No. 22981 of 1903, U. S. Patent to Rietzel, No. 928701, dated July 20th, 1909, and French Patent to Egle, No. 335889, dated February 18, 1904. All of these patents are dated subsequent to the date which the applicant claims under the International Convention, viz., May 25, 1903, and in view of the fact that the applicant maintains that the present application is properly entitled to the date claimed under the International Convention, such patents are no bar in the event of the applicant's contention being upheld.

Coming now to the second ground of the motion that de Ferranti had no right to make the claims forming the subject of the Interference for the reason that they are based on new matter inserted in the divisional application, for which there is no foundation, viz., the following paragraph:

"It will thus be seen that on the completion of the welding operation the blades will be attached to the wheel or disc by a plurality of isolated welds."

while this paragraph certainly does not appear in the parent application, it is not a statement of the method, but a mere statement of what has resulted after the method has been carried out. The lan-

guage quoted "It will thus be seen that on the *completion of welding operation*" shows clearly that this is what follows as a matter of course from the method previously described, and the whole disclosure therein is sufficient justification for its insertion in the divisional.

The allegation of Harmatta that there is no foundation in the original application for claims for a process of welding surfaces to each other at isolated spots of weld, as called for in the counts of the Interference is at variance with the facts, as the figure in the divisional application is exactly as it stood in the original application.

Further, the following parts of the parent application as originally filed are referred to as furnishing ample foundation for and fully justifying the claims forming the issue:

On page 2, line 11, the following statement appears:

"Figure 1 is a part side elevation of a turbine wheel having *cross grooves*."

Then at line 14:

"Figure 2 shows a similar edge view of a modification in which *sets of intersecting grooves are adopted*."

On page 3, last three lines from the bottom, and page 4:

"In carrying out the first part of the invention according to the form shown in Figures 1 and 1a, the turbine wheel or disc is shown at *a*, cross grooves *b*, being cut in its circumferential edge *So AS TO LEAVE PROJECTING PORTIONS OF METAL c TO WHICH THE TURBINE BLADES ARE WELDED*. The SAME OBJECT is obtained by cutting two *intersecting sets of grooves c* in the edge of the disc as shown in Figure 2."

Then in the last paragraph on page 4, the following statement occurs:—"The object to be kept in mind in this, as in other modifications, is to leave sufficient metal to enable the temperature to rise to the welding point as explained above, *WHILST AT THE SAME TIME LEAVING SUFFICIENT AREAS UNTOUCHED TO ENSURE THE MECHANICAL STRENGTH IN THE WELDED JOINT*."

It is respectfully submitted that when the above extracts from the parent application as originally filed, are considered, the contention of Harmatta that there is no foundation for the claims in the original application, is wholly untenable.

The above paragraph which refers to Figures 1 and 1a, clearly shows that the blade is to be welded to the projecting portions of metal formed by the grooving of the circumferential edge of the blade carrier, while the same object, viz., the welding of the blades to the projecting pieces of metal, is attained when intersecting sets of grooves are cut as shown in Figure 2 of the parent application, which is identical with the drawing in the divisional application.

The disclosure in the parent application, therefore, shows a pro-

cess of electric welding in which a turbine blade is attached to a carrier by means of a plurality of welds isolated from one another, as in no other manner could a turbine blade be attached when the process illustrated in Figure 2 of the parent application is carried into effect. This being the case, the applicant, finding he was the first so far as the prior art cited by the Examiner was concerned, to weld two parts together electrically by a plurality of welds isolated from one another, he considers that he is entitled under the law and decisions to file claims covering this method broadly and independently of the particular purposes to which the method is applied.

Not only is the paragraph objected to by Harmatta completely justified by the extracts from the parent application, but there is ample foundation for the claims in the original application, and de Ferranti is entitled to the broadest claims which the state of the art will permit.

In conclusion, therefore, it is urged that de Ferranti is entitled to make the claims, that their subject matter is not a departure from the disclosure of the original application, that they are not based on new matter, and as de Ferranti is entitled to the convention date of May 25th, 1903, the patents referred to in the motion are too late to constitute a bar.

Very respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

Hearing: 36,709—40.
November 16, 1914.

M. S. D.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

PATENT INTERFERENCE NO. 36,709.

MOTION FOR DISSOLUTION.

ELECTRIC WELDING.

Application of Sebastian Ziani de Ferranti filed Dec. 29, 1911.
No. 668,464, division of application filed May 14, 1904.
Patent granted Johann Harmatta Dec. 3, 1912, No. 1,046,066, on
application filed Dec. 3, 1903.

Messrs. Spear, Middleton, Donaldson & Spear for de Ferranti.
Messrs. Townsend & Decker for Harmatta.

The party Harmatta moves to dissolve the interference on the ground that the party de Ferranti has no right to make the claims forming the subject-matter of the interference. The reasons upon which the motion is based will be specifically considered later.

The party Harmatta is a patentee and the issue is in the terms of his claims 1, 2, 3 and 4, which are as follows:

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

The invention upon which the interference is based is a process of electric welding which consists broadly in bringing the pieces of metal to be welded into contact and subjecting them locally to pressure and heating current so as to secure the pieces of metal together by what is known as "spot welding."

The Harmatta case shows pieces of relatively thin metal having their edges overlapped and secured together in the manner just stated. Harmatta describes his process as being particularly adapted for securing together sheets of metal used for sheet metal ware like vessels or household utensils. de Ferranti employs the process

disclosed in his case to secure turbine blades to a turbine wheel or support, although he states that his process is of general application. As shown in the de Ferranti drawing, the ends of the blades *d* are brought into contact with spaced projecting portions on the wheel or carrier and electrically welded thereto. The spaced projecting portions are designated *f* in the specification and, as shown in Fig. 2 of the drawing, are formed by intersecting grooves. As also shown in Fig. 2, one end of the blade engages a number of the spaced projections.

The de Ferranti case is set up as a division of an earlier case, Serial No. 208,034, filed May 14, 1904, and if the application involved in interference is not entitled to the filing date of the original application, it is subject to certain statutory bars, i.e., the British patent to Harmatta, No. 22,981 of 1903, the U. S. patent to Rietzel, No. 928,701, July 20, 1909, and the French patent to Egel, No. 335,889, February 18, 1904. That the patents just referred to constitute statutory bars to the grant of a patent to de Ferranti based on the application involved in this interference is admitted, unless the application is a division of the de Ferranti original application.

Broadly stated, Harmatta's motion raises two questions, that of "departure" and "new matter" when a comparison is made of the original and alleged divisional applications of de Ferranti. Thus it is contended in behalf of Harmatta that de Ferranti's original application disclosed only a process of butt welding the end of a turbine blade on to its carrier or wheel, whereas the process claimed in the divisional case differs essentially from a butt welding process. It is further contended in behalf of Harmatta that the following statement found on page 3 of the specification of the divisional case constitutes "new matter" so far as the disclosure of the original case is concerned:

"It will thus be seen that on completion of the welding operation the blades will be attached to the wheel or disk by a plurality of welds isolated from one another."

The figures of drawing of the de Ferranti application involved in interference correspond to and are substantially identical with Figs. 1 and 2 of the original case. There is in the specification of the original case no definite statement to the effect that the end of the turbine blade is welded to the wheel or support at spots only. However, the practice of the process originally disclosed must result in spot welding broadly, unless the parts to be welded are subjected to heat and pressure for so long a time as to break down the projections on the wheel with which the end of the blade contacts and cause a fusion or coalescence of the entire end surface of the blade and that portion of the wheel with which it engages. In Fig. 1 of the drawing in both original and divisional cases and

also in Fig. 13 of the original case, all of which show the wheel after the blades have been welded thereto, the projections are not broken down but retain substantially, at least, their original heights. If this is a correct showing the conclusion seems inevitable that the blades are welded to the wheel only at spots corresponding to the projections on the wheel, as shown in Fig. 2 of both the original and divisional cases. In the original de Ferranti specification, on page 4, occurs the following statement:

"The object to be kept in mind in this, as in other modifications, is to leave sufficient metal to enable the temperature to rise to the welding point as explained above, whilst at the same time leaving sufficient areas untouched to ensure the mechanical strength in the welded joint."

Also, on pages 3 and 4, it is stated in describing the grooves in the wheel that the grooves are cut "so as to leave projecting portions of metal *c* to which the turbine blades are welded."

The specification of the original de Ferranti application describes on page 7 and elsewhere the application of pressure to the parts to be welded. It is stated on page 10 of the original specification that as the blade softens under the heat, the pressure of a spring causes a slight shortening of the blade, i.e., the turbine blade, but there is no suggestion that the projections on the wheel or support are broken down or destroyed.

The statement is made in the motion papers that what de Ferranti disclosed in his original case was a process of butt welding and that the claims involved in the interference are for an invention differing essentially from mere butt welding. It may be said with respect to this statement that the claims, in terms at least, do not exclude butt welding but require that the pieces of metal shall be welded together at spots only of their adjacent surfaces. The limitation in the counts to localized pressure is present in de Ferranti, since obviously pressure will be exerted only on those portions of the metal pieces where the projections on the wheel or support contact with the end of the blade.

The only question before the law examiner is that of right on the part of de Ferranti to make claims corresponding to the counts. With respect to this question, it must be answered in the affirmative. The motion for dissolution is accordingly denied. No appeal lies from this decision, hence no limit of appeal is fixed.

E. S. HENRY,
Law Examiner.

December 1, 1914.

Address only
The Commissioner of Patents,
Washington, D. C.

EEG

36,709—41.

Letter No.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

December 1, 1914.

In the matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE NO. 36,709.

MOTION FOR DISSOLUTION.

Sir:

Please find enclosed herewith a copy of a decision of the Law Examiner in the above entitled case.

Very respectfully,

Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Victor Bldg.,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York City.

536

Defendant's Exhibit No. 33.

Room No. 261. 2—224.

Address only

"The Commissioner of Patents,
Washington, D. C.
and not any official by name.

Paper No. 42.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.

Dec. 3, 1914.
Mailed Dec. 3, 1914.
Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

BEFORE THE EXAMINER OF INTERFERENCES.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6—1652

The law examiner having denied Harmatta's amended motion
to dissolve, filed June 10, 1914, proceedings are resumed and the
times for taking testimony and for final hearing are reset as follows:

Testimony in chief of De Ferranti to close February 3, 1915.

Testimony of Harmatta to close March 3, 1915.

Rebuttal testimony of De Ferranti to close March 18, 1915.

Final hearing May 18, 1915, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk,
Dec. 12, 1914,
U. S. Patent Office.

36,709—43.

Mail Room,
Dec. 12, 1914,
U. S. Patent Office.

UNITED STATES PATENT OFFICE,

In re Interference :

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

BEFORE THE EXAMINER OF INTERFERENCES.

MOTION.

NOW COMES JOHANN HARMATTA, by his attorneys, and moves for a rehearing of his Motion to Dissolve the Interference decided by the Law Examiner December 1st, 1914, upon the grounds :

1. That a question decisive of the case and duly argued by counsel was overlooked, to wit: the principle of the patent law applicable to this case and which, had it been applied, would have necessarily resulted in a different conclusion, that is, the principle that the specification and drawings must be considered together as a whole and with reference to the art to which the invention relates and to the accomplishment of the actual practical purpose of the inventor. In this case the practical purpose of securing the turbine blade to the carrier and the securing thereof in a way consistent with the formation of a joint such as is required in the turbine art would require the actual welding of the whole face of the blade so as to make a steam-tight joint.

The paragraph in the Ferranti specification referred to in the decision of the Law Examiner cannot be taken by itself and apart from the whole purpose of the invention and the art to which it belongs, for to do so would be to interpret the patent inconsistently with the principle of law, as above laid down.

2. There was obvious misapprehension of the electric welding process as evidenced by the statement of the Law Examiner in his

decision that while the turbine blade may shorten under the action of the heat and pressure, the projections on the wheel or support will not be broken down.

3. There was obvious misapprehension of the showing made in Figure 1 of the drawings of the original application in that said Figure in the original application, as pointed out in counsel's argument at the hearing showed and the description described that the projection in this Figure is disposed transversely the entire width of the carrier or wheel.

JOHANN HARMATTA,
By TOWNSEND & DECKER,
Attorneys.

New York, December 11th, 1914.

SET
36,709—44.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

PATENT INTERFERENCE No. 36,709.

MOTION FOR REHEARING.

ELECTRIC WELDING.

Application of Sebastian Ziani de Ferranti filed December 29, 1911,
No. 668,464, division of application filed May 14, 1904.
Patent granted Johann Harmatta December 3, 1912, No. 1,046,066,
on application filed December 3, 1903.

Messrs. Spear, Middleton, Donaldson & Spear for de Ferranti.
Messrs. Townsend & Decker for Harmatta.

The party Harmatta moves for a rehearing of his motion for dissolution which was denied by the law examiner in a decision dated December 1, 1914.

There appears to be no necessity for making the joint between the base of the turbine blade and its support steam tight, as suggested in the motion for rehearing. It may be that a loss in efficiency would result if the blade were spot welded to its support, but this presents no good reason for assuming that the projecting portions on the wheel are broken down or destroyed. There is in the orig-

Defendant's Exhibit No. 33.

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inal de Ferranti specification no suggestion that the joint under consideration must be steam tight, but, on the contrary, there are distinct statements that the ends of the blades are welded to the projections, as pointed out in the decision on the motion for dissolution.

The motion for rehearing is denied.

E. S. HENRY,
Law Examiner.

December 15, 1914.

Address only
The Commissioner of Patents,
Washington, D. C.

EEG

36,709 Letter No.45.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

December 15, 1914.

In the matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

MOTION FOR REHEARING.

Sir:

Please find enclosed herewith a copy of a decision of the Law Examiner in the above entitled case.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Victor Bldg.,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York City.

540

Defendant's Exhibit No. 33.

Docket Clerk,
Jan. 26, 1915,
U. S. Patent Office.

36,709—46.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

It is hereby stipulated and agreed that the time now set for the taking of de Ferranti's testimony be extended to March 1, 1915, and the other times accordingly.

Very respectfully,

("S" in margin.)

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for Ferranti.

TOWNSEND & DECKER,

Attorneys for Harmatta.

2—224

Paper No. 47.

Room 261.

Address only

"The Commissioner of Patents,

Washington, D. C.,"

and not any official by name.

IAW

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

January 27, 1915.

Mailed " " "

Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

The stipulation filed herein January 26, 1915, is approved and times are extended as follows:

Testimony in chief of De Ferranti to close March 1, 1915.

Testimony of Harmatta to close April 1, 1915.

Rebuttal testimony of De Ferranti to close April 16, 1915.

Final hearing: June 16, 1915, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.

36,709—48.

Mar. 2, 1915.

U. S. Patent Office.

STIPULATION

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

It is hereby stipulated and agreed by and between the respective parties to the above entitled interference that the times for taking testimony and final hearing be extended fifteen days from the dates now set.

Respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for de Ferranti.

TOWNSEND & DECKER,

Attorneys for Harmatta.

("S" in margin.)

Fel. 27, 1915.

Room 261.

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

IAW

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.

March 3, 1915.

Mailed " " "
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

6—1652

THOMAS EWING,
Commissioner of Patents.

The stipulation filed herein March 2, 1915, is approved and times
are extended as follows:

Testimony in chief of De Ferranti to close March 16, 1915.

Testimony of Harmatta to close April 16, 1915.

Rebuttal testimony of De Ferranti to close May 1, 1915.

Final hearing: July 1, 1915, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Defendant's Exhibit No. 33.

543

Docket Clerk.
Mar. 17, 1915.
U. S. Patent Office.

36,709—50.

INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

To the Commissioner of Patents:

It is hereby stipulated and agreed that the times for taking testimony be extended fifteen days from the time now set.

Very respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.
TOWNSEND & DECKER,
Attorneys for Harmatta.

("S" in margin.)

2—224

Paper No. 51.

Room No. 261,
Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

JHD.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.

March 18, 1915
Mailed " " "
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6—1652

The stipulation filed March 17, 1915, is approved and the times herein are extended as follows:

Testimony in chief of De Ferranti to close March 31, 1915.

Testimony of Harmatta to close May 1, 1915.

Rebuttal testimony of De Ferranti to close May 17, 1915.

Final hearing July 20, 1915, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.

36,709—52

Mar. 25, 1915.

U. S. Patent Office.

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

INTERFERENCE No. 36,709.

The parties are endeavoring to render unnecessary the taking of testimony on the part of de Ferranti by stipulation as to the British patent of de Ferranti, and as it is necessary to secure from London additional information concerning the British application as filed, further time is necessary of the period in which de Ferranti must take his evidence, and in order to allow for the serious delays in the mails it is hereby stipulated and agreed that de Ferranti shall have until May 1st, to conclude his testimony, the other dates being extended accordingly.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.
TOWNSEND & DECKER,
Attorneys for Johann Harmatta.

("S" in margin.)

2—224

Paper No. 53.

Room No. 261,

Address only

"The Commissioner of Patents,

Washington, D. C.,"

and not any official by name.

JHD.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.

March 26, 1915.

Mailed " " "

Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

6—1652

The stipulation filed March 25, 1915, is approved, and the times herein are extended as follows:

Testimony in chief of De Ferranti to close May 1, 1915.

Testimony of Harmatta to close June 1, 1915.

Rebuttal testimony of De Ferranti to close June 16, 1915.

Final hearing August 17, 1915, at 11 A. M.

H. E. STAUFFER,

Examiner of Interferences.

546

Defendant's Exhibit No. 33.

Docket Clerk.
Apr. 27, 1915.
U. S. Patent Office.

36,709—54.

S. Z. DE FERRANTI

v/s.

JOHANN HARMATTA.

INTERFERENCE NO. 36,709.

It is hereby stipulated and agreed that the times for taking testimony be extended fifteen days from the dates now set.
("S" and "Notice" in margin.)

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for S. Z. de Ferranti.
TOWNSEND & DECKER,
Attorneys for Johann Harmatta.

2—224

Paper No. 55.

Room No. 261,

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

JHD.

April 28, 1915.

Mailed " " "

Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

SEBASTIAN ZIANI DE FERRANTI

v/s.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

6—1652

The stipulation filed April 27, 1915, is approved, and the times herein are extended as follows:

Testimony in chief of De Ferranti to close May 17, 1915.

Testimony of Harmatta to close June 17, 1915.

Rebuttal testimony of De Ferranti to close July 2, 1915.

Final hearing Sept. 2, 1915, at 11 A. M.

Notice is given, however, that no further extension of De Ferranti's time to take testimony in chief will be granted unless supported by a verified showing setting forth why the testimony could not have been taken within the extension hereinabove allowed.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk
May 17, 1915
U. S. Patent Office

36,709—56

IN THE UNITED STATES PATENT OFFICE.

INTERFERENCE No. 36,709.

SEBASTIAN Z. DE FERRANTI

vs.

JOHANN HARMATTA.

We enclose herewith a stipulation and a certified copy which is filed on behalf of de Ferranti in lieu of testimony, and as constituting Ferranti's testimony in chief.

Respectfully,
SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for Ferranti

May 15, 1915.

Docket Clerk.
May 17, 1915.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

INTERFERENCE No. 36,709.

SEBASTIAN Z. DE FERRANTI

vs.

JOHANN HARMATTA.

It is hereby stipulated by and between the parties to the above entitled interference that the attached certified copy of the provis-

ional specification, complete specification and drawings filed in connection with the proceedings for obtaining British patent No. 11,921 of 1903, issued to Sebastian Z. de Ferranti, shall be received and accepted in evidence as if introduced in the regular course of taking testimony in the interference.

It is further stipulated and agreed by and between the parties hereto that the Sebastian Z. de Ferranti, who on December 29, 1911, filed the present application, Serial Number 668,464, and who on May 14, 1904 filed the application #208,034 of which the present application purports to be a division, is the same Sebastian Z. de Ferranti who filed the above referred to provisional specification and complete specification and drawings in connection with his application for British patent No. 11,921 of 1903, this stipulation being intended to have the same force and effect in proving the date of filing of his foreign application and the date of filing and subject-matter of the said provisional specification, complete specification drawings and that the application for British patent was filed by the same party who filed the aforesaid United States application as if witnesses had been called and had in fact testified to the matters herein stipulated.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for Sebastian Z. de Ferranti.
TOWNSEND & DECKER,
Attorneys for Johann Harmaita.

May 14th, 1915.

Form P. Cert. 1.

Docket Clerk,
May 17, 1915.
U. S. Patent Office

PATENTS AND DESIGNS ACT, 1907.

IT IS HEREBY CERTIFIED by the Comptroller-General of Patents, Designs and Trade Marks that the annexed are true copies of the provisional specification as lodged on the 25th May, 1903, in connection with de Ferranti's application for Patent No. 11,921 of 1903, filed on the 25th May, 1903, and of the complete specification and drawings as left in connection therewith on the 25th February, 1904.

This certificate is issued for use in Interference Proceedings in the United States of America.

WITNESS my hand this 20th day of April, 1915.
(Seal)

W. TEMPLE FRANKS,
Comptroller-General of Patents,
Designs and Trade-Marks.

.....ton Buildings.
.....don, W. C.

Consulate-General of the United States of America, for Great Britain and Ireland, at London.

I, Herbert D. Jameson.....VICE Consul of the United States of America for Great Britain and Ireland at London, do hereby make known and certify to all whom it may concern, that the signature "W. Temple Franks....." subscribed to the annexed Certificate, is of the true and proper handwriting of W. Temple Franks, Comptroller General of Patents, Designs and Trade Marks.....that the seal affixed to the said Certificate is the seal of the Patent Office, England.....and that to all acts signed as the annexed full faith and credit are and ought to be given in Judicature and thereout.

In testimony whereof I have hereunto set my hand and affixed the Seal of the Consulate-General of the United States at London, aforesaid, this 21st day of April, 1915.

HERBERT D. JAMESON,
Vice Consul.

(Seal)

Foreign Fee Stamp.
Consulate General,
21 Apr., 1915.
U. S. A., London.

Docket Clerk,
May 17, 1915.
U. S. Patent Office.

PATENTS, DESIGNS, AND TRADE MARKS ACTS, 1883 TO 1888.

Form B.

PROVISIONAL SPECIFICATION.

IMPROVEMENTS IN AND RELATING TO ELECTRIC WELDING.

I, Sebastian Ziani de Ferranti, Engineer, of 31, Lyndhurst Road, Hampstead, London, N. W.

do hereby declare the nature of this invention to be as follows:

("11921" and "25 MAY 1903" in margin.)

The invention relates to improvements in methods of electrically welding turbine blades to the discs or drums carrying them, and has for its object to overcome the difficulties which have been experienced in electrically welding together the two parts which differ considerably as regards their power of rising to the required welding temperature when heated at the point of junction.

The main difficulty arises through the blades and their carrying discs differing as regards their power of conducting heat away from the welding point.

In the welding of a turbine blade to the disc, ring or the like to

which it is to be secured it is found that the comparatively large volume of metal forming the disc rapidly conducts heat away from the welding point, thus preventing the temperature of the disc part rising to the required extent and causing an unsatisfactory weld.

The invention, therefore, consists broadly in adjusting the volume of metal of the disc in the neighbourhood of the welding point so that approximately equal heating occurs in both faces to be welded, and turbine wheels with welding blades reliably produced in an inexpensive way.

In carrying out my invention according to one modification grooves may be cut across the edge of the ring or several grooves may run circumferentially completely round the edge, or again intersecting sets of grooves inclined to one another may be cut on the edge of the ring.

According to another modification, radial holes may be bored a short distance into the edge, either arranged in patterns so as to leave intervening projections of untouched metal to which the blades may be welded or arranged without particular reference to the position of the blades.

The object to be kept in mind in this as in other modifications is to remove sufficient metal to enable the temperature to rise to the welding point as explained above, while at the same time leaving sufficient areas untouched to ensure due mechanical strength in the welded joint.

Again, the result aimed at may be secured by boring holes through from face to face of the ring at a radius slightly less than that of its outside edge.

According to another modification of the invention, the ring may be built up of two or more thinner rings held in their relative positions by distance pieces or in any other convenient manner, the blades being then welded in position on their outside edges.

Again, the ring may be built up of a set of thin laminae, the edges of which are notched, the laminae being assembled in such a way that the notches are "stepped" with regard to each other, the intervening projections of metal thus following the shape of the turbine blades to be welded to them.

Dated this 25th day of May 1903.

MARKS & CLERK,
18, Southampton Build-
ings, London, W. C.
13, Temple Street,
Birmingham, and
30, Cross Street,
Manchester,

Agents.

X^d
F J W.
20/4/15.

PATENTS, DESIGNS, AND TRADE MARKS ACTS,
1883 TO 1888.

Form C.

No. 11921.

11921

COMPLETE SPECIFICATION Date 25-5-03.

25 May, 1903.

"IMPROVEMENTS IN AND RELATING TO THE ELECTRIC WELDING OF
TURBINE BLADES."

I, Sebastian Ziani de Ferranti, Engineer, of 31 Lyndhurst Road, Hampstead, London, N.W., do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention relates to improvements in and relating to methods of electrically welding turbine blades to the discs, drums or the like carrying them and has for its object to overcome the difficulties which have been experienced in electrically welding together two such parts differing considerably as regards their power of rising to the required welding temperature when heated at the point of junction, so that blade carrying elements with welded blades may be reliably produced in an expensive manner.

The main difficulty arises through the blades and their carriers differing as regards their power of conducting heat away from the welding point.

In the welding of a turbine blade to the carrier to which it is to be secured, it is found that the comparatively large volume of metal forming the carrier rapidly conducts heat away from the welding point, thus preventing the temperature of the carrier rising to the required extent and causing an unsatisfactory weld.

The invention, therefore, consists broadly in adjusting the volume of the blades carrying element in the neighbourhood of the welding point, so that approximately equal heating occurs in both faces to be welded.

Referring to the accompanying drawings which, with the exception of figure 4, show the invention applied, by way of example, to a type of parallel flow turbine in which the blades are mounted on the edge of a wheel-like body.

Figure 1 is a part side elevation of such a wheel having cross grooves.

Figure 1a being an edge view;

Figure 2 shows a similar edge view of a modification in which sets of intersecting grooves are adopted;

Figure 3 shows an edge view of a form having circumferential grooves.

Figure 3a being a section on the line A A of figure 3;

Figure 4 shows, in longitudinal sectional elevation, part of a

drum carrier to which the blades are welded in accordance with one form of the invention:

Figures 5 and 6 show edge views of modifications in which holes are bored radially into the edge of the disc, while

Figure 7 is a part side elevation in which holes are bored through from face to face of the disc;

Figure 8 shows a sectional plan of a form of wheel built up of two dished discs, held apart at their circumferential portions by distance pieces,

Figure 8a being a scrap edge view to a larger scale;

Figure 9 is a similar section plan of a modified form of wheel built up of three discs, while

Figure 9a is a corresponding scrap edge view also to a larger scale;

Figure 10 shows a part sectional elevation of a wheel built up of two comparatively thick discs having notched edges,

Figure 10a being a scrap edge view, while finally

Figure 11 shows an edge view of a form of wheel built up of a series of "stepped" laminae.

It will be seen that all the edge views are shown as developments for clearness of drawing and not as true projections.

The same reference symbols are, when possible, used in the accompanying drawings to denote similar parts.

In carrying out the invention according to the form shown in figures 1 and 1a, the turbine wheel or disc is shown at *a*, cross grooves, *b*, being cut in its circumferential edge so as to leave projecting portions of metal, *c*, to which the turbine blades, *d*, are welded.

The same object is attained by cutting two intersecting sets of grooves, *e*, in the edge of the disc, as is shown in figure 2, or by cutting circumferential grooves, such as *f*, completely round the edge (see figures 3 and 3a.)

Figure 4 shows the invention according to one form, applied to the case of a drum blade carrier, *a1*; the drum is grooved circumferentially with grooves, *f'*, the intervening collars of metal being then crosscut to form projecting teeth, *c'* on which the blades are welded.

According to a modified form, radial holes, *h*, may be bored a short distance into the edge of the disc these holes being either arranged in patterns so as to leave intervening projections of untouched metal to which the blades may be welded as shown in figure 5, or arranged without particular reference to the position of the blades, (see figure 6).

In figure 7, a method is shown of removing metal in the neighbourhood of the welding point by boring holes, *i*, through (or partly through) from face to face of the disc at a radius slightly less than that of its outside edge.

The object to be kept in mind in this as in other modifications,

is to remove sufficient metal to enable the temperature to rise to the welding point as explained above, whilst at the same time leaving sufficient areas untouched to ensure due mechanical strength in the welded joint.

Referring now to figures 8 and 8a, a form of wheel is shown somewhat diagrammatically which is built up of two dished discs, *k*, of comparatively thin metal, held apart at their circumferential portions by one or more distance pieces such as, *l*, disposed at a radius somewhat less than the maximum radius of the discs; the blades, *d*, being welded in position on their outside edges.

Figures 9 and 9a show a type of wheel generally similar to that last described but having an intermediate plane disc, *m*, in addition to the two dished discs, *k*; a portion, *n*, of the hub, *o*, is in this case made detachable so as to allow the different parts of the wheel to be assembled. Distance pieces, *l*, are indicated as before but any other convenient method of holding the discs in their correct relative position may be adopted.

In figures 8 and 9, the dished discs, *k*, are indicated as secured to the hubs, *o*, by pressing the inner edges of these discs into grooves and subsequently burnishing over the hubs to hold the discs in place.

In the modification shown in figures 10 and 10a two dished discs, *k*, are again employed but of thicker metal, their circumferential portions being brought into contact and cross grooves, *b*, being cut in their edges in accordance with the method described above with reference to figures 1 and 1a. Again, that portion of the disc carrying the blades, may be built up of a set of thin laminae, *r*, (see figure 11) the edges of which are notched as at *s*, the laminae being assembled in such a way that the notches, *s*, are "stepped" with regard to each other, so that the intervening projections of metal may follow the shape of the turbine blades to be welded to them.

Instead of notching the laminae, they may be prepared in accordance with other of the methods pointed out above, before being assembled in the manner indicated.

In an invention such as the present, it is not practicable to describe every method of carrying its broad underlying principle into effect, but the scope is sufficiently indicated by the many examples given above, and moreover it will be evident without further description, how the invention may be applied to the welding together of turbine blades and carriers of other forms than those described by way of example.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In turbines, the method of welding the turbine blades to the element carrying them, consisting in so adjusting the volume of metal in the blade carrier in the neighbourhood of the welding

point, that approximately equal heating occurs in the two parts, substantially as described.

2. In turbine, blade carrying elements having blades welded thereupon in accordance with the method claimed in claim 1.

3. In turbines, grooving the blade carrier in the neighbourhood of the welding point, substantially as and for the purpose described.

4. The bladed turbine element, hereinbefore described with reference to figures 1 and 1a of the accompanying drawings.

5. The bladed turbine element, hereinbefore described with reference to figure 2 of the accompanying drawings.

6. The bladed turbine element, hereinbefore described with reference to figures 3 and 3a of the accompanying drawings.

7. The bladed turbine element, hereinbefore described with reference to figure 4 of the accompanying drawings.

8. In turbines, forming holes in the blade carrier in the neighbourhood of the welding point, substantially as and for the purpose described.

9. The bladed turbine elements hereinbefore described with reference to figures 5 and 6 of the accompanying drawings.

10. The bladed turbine element, hereinbefore described with reference to figure 7 of the accompanying drawings.

11. In turbines, building the blade carriers of comparatively thin parts across the non-touching edges of which the blades are welded, substantially as described.

12. The bladed turbine element, hereinbefore described with reference to figures 8 and 8a of the accompanying drawings.

13. The bladed turbine element, hereinbefore described with reference to figures 9 and 9a of the accompanying drawings.

14. The bladed turbine element, hereinbefore described with reference to figures 10 and 10a of the accompanying drawings.

15. In turbines, building the blade carriers of prepared laminae assembled in a "stepped" manner, substantially as and for the purpose hereinbefore described.

16. The bladed turbine element, hereinbefore described with reference to figure 11 of the accompanying drawings.

Dated this 24th day of February, 1904.

MARKS & CLERK,
18, Southampton Build-
ings, London, W. C.
13, Temple Street,
Birmingham, and
30, Cross Street,
Manchester.

Agents.

X^a

F.J.W.

20/4/15.

**BLUEPRINT
TOO
LARGE
FOR
FILMING**

Room No. 261.

2-224

Address only

"The Commissioner of Patents,
Washington, D. C.,"

Paper No. 57.

and not any official by name.

LBF

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.

May 18, 1915.

Mailed " " "

Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

BEFORE THE EXAMINER OF INTERFERENCES.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

6-1652

The Office hereby acknowledges receipt of the stipulation and
certified copy of patent to De Ferranti, which were filed May 17,
1915.

EXAMINER OF INTERFERENCES.

Copy

Docket Clerk.

36,709-58

June 16, 1915.

Mail Room

U. S. Patent Office.

June 15, 1915.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

STIPULATION.

It is hereby stipulated and agreed by and between the respective
parties to the above-entitled interference that the time for taking

558

Defendant's Exhibit No. 33.

Harmatta's testimony be extended sixty (60) days from the date now set and that the remaining dates be extended accordingly.

TOWNSEND & DECKER,
Attorneys for Harmatta.

("S" and "Notice" in margin.)

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for Ferranti.

New York, June 14th, 1915.

Room No. 261.

2—224

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.
LBF

Paper No. 59.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.

June 17, 1915.
Mailed " " "
Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

BEFORE THE EXAMINER OF INTERFERENCES.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6—1652

The stipulation filed June 15, 1915, is approved and the times herein are extended as follows:

Testimony of Harmatta to close Aug. 17, 1915.

Rebuttal testimony of De Ferranti to close Sept. 1, 1915.

Final hearing November 2, 1915, at 11 A. M.

Notice is given, however, that no further extension of Harmatta's time to take testimony in chief will be granted unless supported by a verified showing setting forth why the testimony could not have been taken within the extension hereinabove allowed.

H. E. STAUFFER,
Examiner of Interferences.

36,709—60

Mail Room
Aug. 12, 1915.
U. S. Patent Office.

Docket Clerk,
Aug. 12, 1915.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

STIPULATION.

It is hereby stipulated and agreed by and between the respective parties to the above-entitled interference that the time for taking Harmatta's testimony be extended sixty (60) days from the date now set and that the remaining dates be extended accordingly.

("G." in margin.)

In support of this request for extending times, attention is respectfully invited to the attached affidavit of Charles F. Tischler Jr.

TOWNSEND & DECKER,
Attorneys for Harmatta.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.

New York, August 10th, 1915.

Mail Room,
Aug. 12, 1915.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

BEFORE THE EXAMINER OF INTERFERENCES.

AFFIDAVIT.

County of New York, State of New York, ss:

Chas. F. Tischner Jr. being duly sworn, deposes and says that he is a member of the firm of Townsend and Decker, 149 Broadway, New York, attorneys of record for the party Harmatta in the above entitled interference; that the Harmatta patent No. 1,046,066 involved in this interference is being litigated in the Courts and that the claims of Harmatta's patent made the counts of this interference are before the Courts for adjudication; that a decision of the United States District Court for the District of Massachusetts has been rendered by which the Court held the claims of the patent, including the counts of this interference, invalid for want of invention over the prior art (see Thomson Electric Welding Company et al vs. Barney and Berry, Inc. opinion of the Court dated March 10th, 1915, copy of which is attached hereto); that an appeal has been taken from said decision to the Circuit Court of Appeals for the First Circuit; that said appeal was heard by the Court on April 28th, 29th, and 30th, 1915 but that no decision of the Court has as yet been handed down; that it is impossible to determine exactly when the decision will be made but it is improbable now that it will be before October; that the reason for requesting the extension of time for taking Harmatta's testimony in the interference is that the parties should not be required to go to the expense of actually contesting the right to claims which are awaiting determination as to their validity by a Court of last resort especially in view of the decision of the lower Court against the validity of the claims and that the request is not made for any purpose of delay except that specified.

CHAS. F. TISCHNER JR.

Subscribed and sworn to before me this 10th day of August, 1915.

(Seal)

W. R. WARNER,
Notary Public.

Notary Public, Bronx County.
Cert. filed in N. Y. Co. No. 107.
New York Register No. 7120.
Term expires March 30, 1917.

Mail Room,
Aug. 12, 1915.
U. S. Patent Office.

DISTRICT COURT OF THE UNITED STATES,

DISTRICT OF MASSACHUSETTS.

IN EQUITY.

No. 434.

THOMSON ELECTRIC WELDING CO., et al.

v/s.

BARNEY & BERRY, Inc.

ON PLEADINGS AND PROOFS.

OPINION OF THE COURT,
March 10, 1915.

DODGE, J.—

The Thomson Electric Welding Co. owns U. S. Patent No. 1046066, for improvements in electric welding, issued to Johann Harmatta December 3, 1912, upon his application filed December 3, 1913. It acquired Harmatta's rights in February, 1912, while his application was still pending. The other plaintiff, Universal Electric Welding Co., is and has been since 1909 exclusive licensee under all patents then or thereafter owned or controlled by the Thomson Co., including the patent whereon the present suit is brought.

There are 21 claims in all, the first 16 being for a method or process described, and the last 5 for the product thereof. Infringement of all the claims is charged, but the plaintiffs ask the Court to consider only 8 of the process claims (Nos. 3-6, 8, 9, 11 & 12) and only 4 of the product claims (Nos. 17, 18, 19, 21). The defences are, lack of invention, anticipation, invalidity because of changes made in the application before issue, and non-infringement.

Introductory statements in Harmatta's specifications are that his invention relates to the manufacture of metal articles of all kinds and consists in a novel method of fastening their component

parts together by the process of electric welding; also in the new article produced thereby. The invention is further said to afford a cheap and practical substitute for riveting.

Consideration of former methods of uniting metal by electric welding is therefore required in order to determine the precise scope of Harmatta's invention. For the purposes of such inquiry, his own definition of "electric welding" may be adopted. He says in his application,

"By the term 'electric welding' as used herein I mean that well known process in which the work is brought to the welding temperature by internal heat generated by the resistance of the work itself to the passage of an electric current at the place of contact between the parts to be joined by the welding pressure,"

and this is immediately followed by his express disclaimer of

"Those processes of fastening pieces of metal together in which the parts are heated and practically melted down by an electric arc generated on the back of the piece by 'drawing' an arc by means of the electrode, as well as other processes in which the welding heat is generated externally and electrically in a resistance material and is imparted to the work by heat conduction from said resistance material in contact with the work."

The electric welding art may be said to have begun with the inventions of Elihu Thomson, disclosed in two U. S. Patents issued to him on Aug. 10, 1886,—Nos. 347140 and 347141. The first of these describes the process of "butt-welding", wherein the ends of wires or bars, held by suitable electrodes, are butted together under pressure, raised to welding heat by an electric current of small voltage and large volume passed through them from one electrode to the other, and caused to unite into one mass over their entire area of contact, while thus plastic, by the pressure applied. A slight burr or flange of metal, extruded while plastic at the junction point, is left in the welded article. The second of the above patents covered the apparatus for carrying out the process described in the first.

Five years later (Jan. 20, 1891) another U. S. Patent No. 444,928, was issued to Thomson; covering a process of joining two strips, sheets, plates or bars of metal by continuous electrically welded seams. Roller electrodes were used, between which the two strips or sheets to be joined were fed during the passage of current from one to the other. Suitable pressure devices enabled opposed electrodes to hold the two strips or sheets in close contact between them at the point of the current's passage. The use of roller electrodes permitted an uninterrupted current to be passed through all points within the line of the desired seam successively

and without relaxation of the pressure. Electrodes not provided with means to permit this could not have produced a continuous seam, but only, at most, a series of more or less frequent welds along its line, each requiring separate application and interruption of pressure and current.

A still later U. S. Patent to Thomson,—No. 496019, issued April 25, 1893, covered a process of soldering (instead of welding) two overlapped sheets of metal together by the passage of current through them, so as to produce the necessary heat where the desired junction was to be made, between two electrodes arranged to hold them there in contact while the current passed. Less heat and therefore less current is required for soldering than for welding. The process described in this patent might have been used to produce a welded instead of a soldered union between the sheets merely by an increase in the amount of current passed between the electrodes.

All the above patents have belonged to the Thomson Co. since their issue. The two "butt-welding" patents expired Aug. 10, 1903, shortly before Harmatta's application was filed. There was reference to them and to others of the above patents in the patent in suit, made in connection with the patentee's statements of the scope of his invention.

The patent states that in general terms the invention may be said to consist.

"In fastening the pieces together by an electric weld at one or more distinct or well defined spots, each of small area or extent in their juxtaposed or opposite plane faces, by the application of pressure and heating current localized in such spots, and in the special method of localizing the heating and pressure in the spot or spots as hereinafter described," &c.

The substance of the description then following is contained in the following passage quoted from the plaintiff's brief.

"Harmatta's invention may be done described:

Two comparatively thin sheets of metal can be joined together by one or more isolated welds in their meeting surfaces made by applying electrodes of limited facial area to the backs of the sheets, pressing the electrodes and sheets together, and passing a welding current from one electrode to the other, whereby a weld is made between the sheets at the spot, the area of which is determined by the area of the electrodes in contact with the metal sheets."

The patentee's references to former patents are:

"It has been before proposed to electrically weld two rods of metal together by a butt-welding process, the area of union effected being substantially coextensive with the cross-section of the pieces at their meeting ends, that is to say, the weld has been made over substantially the whole area of the opposed portions of said pieces.

It has also been proposed to make a lap joint between the ends of two strips of metal by electrically uniting them together over substantially the whole area of the lapping surfaces."

"I am also aware of patent to H. F. A. Kleinschmidt, No. 616436, dated December 20, 1898, and do not wish to be understood as claiming anything disclosed in said patent."

The patent here referred to does not appear to have belonged, like the others, to the Thomson Co., but to the Loraine Steel Co. whereof Kleinschmidt was an employee. In using his patented method commercially, however, he testified that he used an electric welding machine made by the Thomson Co. His patent covers a process of attaching splice bars to rails. Two splice bars, each having on one side three projections or "bosses", one at each end and one in the middle, are placed, one bar against each side of the abutted rails, so that their projections are opposite each other and their middle projections opposite the junction of the rails. Their contact with the rails is through their projections only. Electrodes of much greater facial area than the projections are applied against the backs of the splice bars opposite each pair of projections. Pressure applied to the electrodes in the direction necessary to force them toward each other, holds the webs of the rails and the splice bar projections in contact with the electrodes and each other; the required current transmitted between the electrodes heats the projections and so much of the webs of the rails as lies between them at the contact points, the welding heat, and the pressure applied as above causes union at those points.

To the remaining patents in evidence as part of the prior art, briefer reference will be sufficient. Of U. S. Patent 363320 to Bernardos and another May 17, 1889; and the German Patent to Benardos 50509, Feb. 19, 1890, it is enough to say that neither relates to electric welding in the same sense of the patent in suit, and that both processes described are of the kinds expressly disclaimed by Harmatta, as above.

U. S. Patent No. 670808 to Perry, March 26, 1901, covers a method and machine for electrically welding the rods or wires of metallic fencing at their crossing points, by a simultaneous application of mechanical pressure and electrical current at those points. The similarity of what is described to the process of the patent in suit is at most general and not more significant, for the purposes of the questions presented, than in the case of the Thomson and Kleinschmidt patents already mentioned.

U. S. Patent to Hunter, No. 690958, Jan. 14, 1902, is for a method of electrically welding together similar sheets of metal at their ends so as to produce water-tight joints between them and from them continuous lengths for roofing purposes. Pressure and current are simultaneously applied to melt and unite the metal of the sheets at a series of points determined by projections previously

formed in one and arranged to contact with the other sheet along the desired line of junction. The metal, melted where each projection contacts with the other sheet, spreads to unite with that at the next projection and thus to form a full transverse weld. No such spreading of molten metal is contemplated by the process of the patent. Except that metallic sheets are to be joined instead of rails, I find no resemblance in this process to that of the patent more significant than in the case of the Kleinschmidt patent.

The plaintiffs say that Harmatta's method of joining comparatively thin sheets of metal by isolated welds, made in the manner described, "was a radically new idea."

But so far as he did no more than employ simultaneously the passage of electric current to bring the work to welding temperature at the place of contact by its own resistance, and application of welding pressure at the same place, he introduced no idea at all. All this, if not necessarily involved in the terms of his own definition of "electric welding", is certainly to be found in each one of the inventions disclosed in the various patents before mentioned which make use of that process. His new idea, if any, must be something beyond this.

The plaintiffs contend that localizing the current by pressure in a particular limited area of the contacting surfaces of the work, determined by the area of the applied electrode, and thereby bringing that limited area to a welding temperature without material heating of the adjacent parts, was new with Harmatta. It is said that by localizing the pressure at the selected limited area of the work, he thereby reduced the resistance, concentrated the current and increased its welding power within that area; securing at the same time, by means of the pressure upon the softened metal within the same area, the desired molecular union there between the two sheets. But all this is necessarily accomplished at every point successively along the line of the continuous electrically welded seam made by the process of Thomson's patent No. 444,928. It must also be accomplished, so far as I can see, in every case of an electric weld covering less than the whole area of the surfaces joined, made under pressure exerted between the two electrodes. The passage of current and heating of the metal must occur at those places within which the resistance is most diminished by the pressure. Claims drawn upon the theory that such localization of pressure, current and heating were new with Harmatta appear to have been repeatedly rejected and cancelled in the Patent Office before his patent issued.

The prior art thus leaves no room, so far as I can see, for crediting Harmatta with any idea beyond that of making his electric welds small in area, rather than large, in comparison with the areas of the opposed surfaces to be joined, and isolating them so as to leave each surrounded by a comparatively large area of unwelded surface. Although his patent states that a weld formed by his

process is distinguished from prior welds, "among other things," in the above respects, these are the only respects which he specifically mentions and they are in my opinion the only respects in which any distinction can be said to exist.

It is difficult to regard the above as an inventive idea. Referring again to the Thomson patent No. 444,928, the process therein described, which it is said to be "especially applicable to the welding of plates together at their edges, instead of riveting," is just as applicable to the welding of plates or sheets at other places within their area as at their edges. The roller electrodes employed, when brought together on each side of the work, and until something more is done, will pass the electric current and make the weld at the spot or point of pressure and nowhere else. (See claim 1 of the patent referred to.) If, having there made the weld, they should be again separated, instead of having the work fed between them while their pressure upon it continued, they would leave an isolated spot weld joining the plates and be in readiness to make another weld isolated from the first by any desired area of unwelded surface.

The plaintiffs say that although machines were built to carry out the roller process of the last mentioned patent, they were not practically successful and that the process has proved a failure so far as commercial success is concerned. Their evidence tends to support this contention and to show that there are practical difficulties attending the use of the process. But so far as the question raised is important, I think the plaintiffs' evidence tending to show want of success is fully met by that of the defendant; according to which the process has been successfully carried out by machines built and commercially installed by at least two different concerns. Samples of the work they have produced by using it are among the exhibits in the case and there is nothing to show that such work is unsatisfactory in character.

The presumption of validity arising from the issue of the patent seems to me entitled in the present case to less than the usual weight in view of the history of the Patent Office proceedings upon Harmatta's application, as disclosed by the file wrapper and contents in evidence. As has appeared, the application was pending for ten years before the patent issued. As originally filed, the application described a process of roller welding substantially like that of Thomson, with the statement toward the close of the specification that instead of introducing the piece to be welded gradually between the electrodes, the welding apparatus might be arranged to slide relatively to them; and that if required to weld sheets only at particular places, apparatus employing electrodes having the form of pins might be used, instead of the roller electrodes, to produce "a small, round, very sharply defined place of welding", answering the purposes of a rivet. There were two claims covering roller welding and two others not thus limited. The idea of roller welding thus appears to have been, with Harmatta, the foundation and

origin of his further idea of spot welding; and his further idea to have consisted in nothing more than stopping with the first point welded instead of continuing it into a welded line.

Harmatta's roller-welding claims having been rejected in view of Thomson's patent, and cancelled on May 14, 1904, with so much of his original specification and drawings as related to them his application became and thereafter continued to be an application covering "spot welding" only. The original claims covering it, however, soon disappeared and there were further successive rejections, cancellations, amendments and substitutions of new claims, in 1904, 1905, 1906, 1907 and 1910. Meanwhile patent No. 928,701 issued on July 20, 1909, to Rietzel, on an application owned by the Thomson Co. March 31, 1910, Harmatta copied some of the Rietzel claims, at the suggestion of the Patent Office, in order that an interference might be declared. After this had been done, on April 26, 1910, Harmatta added still other Rietzel claims to his application and it was acquired also by the Thomson Co., pending the interference, in February 1912. The interference was decided in his favor in October 1912, but before the issue of the patent, still another cancellation and substitution of a new specification, with new claims was found necessary, wherein the invention was for the first time stated to consist in having the welds small and surrounded by comparatively large areas of unwelded surface.

All this may be regarded as significant on the question of patentable novelty (*Richmond v. Atwood*, 48 F. R. 910, 913); and it seems sufficient to indicate, at least, that only with unusual difficulty was Harmatta able to suggest or the Patent Office to find in his spot welding process, however described, anything capable of being regarded as patentably new in view of the prior art.

Under its butt-welding patents and roller welding patent the Thomson Co. appears to have had a complete monopoly of electric welding. The latter patent expired Jan. 20, 1908. While the monopoly continued, electric welding machines could be had only under lease from the Thomson Co., restricting their use to specified articles. In 1908, the Toledo Electric Welder Co., which made the machine which the defendant uses, and is defending this suit, began to make and introduce machines for spot-welding. Other concerns followed in 1908, 1910 and 1911, all acting without knowledge of previous applications by Harmatta or others for patents covering the spot-welding process. Under these circumstances it can hardly be said that, upon the question of patentable novelty in anything invented by him, Harmatta is supported by any advantages which the development of spot welding since 1908 has shown to reside in the process, or by any commercial success it has attained. I do not think the facts shown entitle him to say that by his alleged invention, as he was finally obliged to define and limit it, he was the first to supply a wide spread demand not previously met.

The defendant's use of the Toledo machine which is here com-

plained of as an infringement, is in the manufacture of skates. The greater part of the work done by the machine is in uniting two strips of metal, each forming half of a skate runner, by successively made, contiguous, overlapping, spot electric welds, small in size, which together make a practically continuous weld from one end of the runner to the other. The process is carried on with such rapidity that one weld has hardly begun to cool before the welding adjoining is made. The completed row of welds is thus, for all practical purposes, like a continuous seam weld produced by the use of roller electrodes. The welds of which it is composed are neither isolated nor separated by comparatively large areas of unwelded surface. I do not see how, in any case, the patent could be so construed as to make this method of welding an infringement. If not, to sustain the patent involves leaving the question of infringement to depend merely upon the amount of unwelded area left between the welds; and this result seems to me to afford a further reason against holding it valid.

My conclusion must be that the process described in the patent does not involve invention, in view of the prior art. There may be a decree dismissing the bill, with costs.

Room No. 261.

2—224

Address only

"The Commissioner of Patents,

Paper No. 31.

Washington, D. C.,"

and not any official by name.

JHD

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.

August 13, 1915.

Mailed August 13, 1915.

Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

BEFORE THE EXAMINER OF INTERFERENCES.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

The stipulation filed August 12, 1915, is approved, and the times are extended as follows:

Testimony of Harmatta to close October 18, 1915.

Rebuttal testimony of De Ferranti to close November 2, 1915.

Final hearing January 4, 1916, at 11 A. M.

LOUIS E. GILES,
Acting Ex'r. of Intfs.

36,709—32

Oct. 11, 1915.
U. S. Patent Office.

Mail Room,
Oct. 11, 1915.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

Re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

STIPULATION.

It is hereby stipulated and agreed by and between the respective parties to the above-entitled interference that the time for taking Harmatta's testimony be extended thirty days (30) from the date now set and that the remaining dates be extended accordingly, the Commissioner of Patents consenting.

TOWNSEND & DECKER,
Attorney for Harmatta.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

New York, October 7th, 1915.

36,709—33

Docket Clerk.
Oct. 11, 1915.
U. S. Patent Office.

Mail Room
Oct. 11, 1915.
U. S. Patent Office.

(Printed Letter-Head Omitted)

New York, October 7th, 1915.

Hon. Commissioner of Patents,
Washington, D. C.

Attention of MR. STAUFFER,
Examiner of Interferences.

SIR:

Re: Interference de Ferranti vs. Harmatta, No. 36,709.

We enclose herewith stipulation for an extension of Harmatta's

time for taking testimony in this case for a period of thirty days from the date now set.

The writer spoke to Mr. Stauffer in Washington the other day and explained this matter to him but on that day an opinion was handed down by the Court of Appeals for the First Circuit in the infringement suit referred to in the writer's affidavit accompanying the stipulation dated August 10th 1915. In this opinion the Circuit Court of Appeals reverses the lower court and holds the claims of the Harmatta patent involved in this interference valid. As explained to Mr. Stauffer at that interview, the time is now so short, even though the decision has already been rendered, for us to prepare our case for the interference as we have not yet had an opportunity to thoroughly examine the opinion of the Court, it will be impossible for us to prepare and take our proofs within the time now set. As understood by the writer, Mr. Stauffer consented to the granting of a further extension under the circumstances.

Very respectfully,

TOWNSEND & DECKER.

CFT/IL

Enc.

Room No. 261.

2-224

Address only

"The Commissioner of Patents,
Washington, D. C.,"

Paper No. 34.

and not any official by name.

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.

October 12, 1915.

Mailed " " " "
Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

BEFORE THE EXAMINER OF INTERFERENCES.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

The stipulation filed herein October 11, 1915, is approved and times are extended as follows:

Testimony of Harmatta to close November 18, 1915.

Rebuttal testimony of De Ferranti to close Dec. 3, 1915.

Final hearing: February 3, 1916, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.

36,709—35.

Oct. 28, 1915.

U. S. Patent Office.

Mail Room.

October 28, 1915.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

New York, October 27th 1915.

Messrs. Spear, Middleton, Donaldson & Spear,

Victor Building,

Washington, D. C.

Sirs:

PLEASE TAKE NOTICE that on Thursday, the 4th day of November, 1915, at 10 o'clock a. m. or as soon thereafter as counsel may be heard before the Examiner of Interferences, we shall move to transmit the accompanying motion for dissolution of this interference to the Law Examiner for his determination and shall also move for a stay of proceedings pending the final determination of said motion.

TOWNSEND & DECKER,
Attorneys for Harmatta.

AFFIDAVIT OF SERVICE.

County of New York, State of New York, ss:

Remington A. Scott, being duly sworn, deposes and says that he is a clerk in the office of Messrs. Townsend & Decker, 149 Broad-

way, New York; that on October 27th 1915 he deposited with the Post-Office authorities at New York City, New York, and caused to be sent prepaid, by registered mail, a sealed envelope addressed to Messrs. Spear, Middleton, Donaldson & Spear, Victor Building, Washington, D. C., as per attached registry slip, which envelope contained a copy of the accompanying motion papers.

REMINGTON A. SCOTT.

Subscribed and sworn to before me this 27th day of October 1915.

GEORGE E. BROWN,
Notary Public.

(Seal)

Notary Public—Richmond County Certificate filed in New York County, No. 179.

New York register No. 7223.

Term expires March 30, 1917.

No. 53905

Receipt for Registered Mail.

Postmark.

New York, N. Y. (Hudson Term. Sta.)

Registered Oct. 27, 1915.

—class postage prepaid. Postmaster, per G C

Mail Room.

Oct. 28, 1915.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

In re Interference:

DE FERRANTI

v/s.

HARMATTA.

No. 36,709.

MOTION FOR TRANSMISSION.

NOW COMES JOHANN HARMATTA, by his duly authorized attorneys and moves that the Honorable Examiner of Interferences transmit the accompanying motion for dissolution of this interference to the proper Law Examiner for his determination and refer to the annexed affidavit of Charles F. Tischner, Jr., in support thereof.

It is also moved that a stay of proceedings be granted pending the final determination of said motion.

TOWNSEND & DECKER,

Attorneys for Harmatta.

New York, N. Y., October 27th 1915.

Mail Room.

Oct. 28, 1915.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

AFFIDAVIT.

CHARLES F. TISCHNER JR., being duly sworn, deposes and says that he is a member of the firm of Townsend & Decker, attorneys of record for Harmatta in the above-entitled interference; that he has personal charge of this case; that it was impossible to move to dissolve on the ground now made in the present motion at the time of bringing Harmatta's original motion to dissolve in this case for the reason that the patent of Ferranti made the subject of the present motion was not issued at that time; that since the issuance of the said patent, to wit: July 27th 1915, this interference has remained quiescent for reasons appearing of record in the case, to wit: the fact that a decision of the United States Circuit Court of Appeals on the validity of the claims of the Harmatta patent involved in this interference was being awaited; that the opinion of the said Court holding the claims valid was rendered the early part of the present month; that since that time deponent has been busy preparing for the presentation of the case for the party Harmatta in this interference; that deponent believes a valid patent could not issue to de Ferranti on the subject-matter of this interference even should he prevail in the interference on account of the newly discovered bar thereto, to wit: the patent referred to in the accompanying motion papers to dissolve the interference; that such question should be passed upon before subjecting the parties hereto to the expense of an actual contest and that the present motion is made in good faith and not for the purpose of delay.

CHAS. F. TISCHNER JR

Subscribed and sworn to before me this 27th day of October, 1915.

GEORGE E. BROWN,
Notary Public.

(Seal)

Notary Public—Richmond County Certificate filed in New York County, No. 179.

New York register No. 7223.

Term expires March 30, 1917.

Mail Room.

Oct. 28, 1915.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE LAW EXAMINER.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

MOTION TO DISSOLVE.

NOW COMES JOHANN HARMATTA, a party to the above-entitled interference, by his attorneys, and moves that the interference be dissolved on the ground:

That the United States patent issued to Sebastian Ziani de Ferranti, one of the parties to this interference, on the 27th day of July 1915, No. 1,148,221, for Process of Electrically Welding Turbine Blades, constitutes a bar to the grant of a patent to said de Ferranti on the subject-matter of this interference for the reason that the invention covered by the aforesaid patent is the same as the invention covered by the application of de Ferranti as involved in this interference; that the claims of the interference as made by de Ferranti are based on the same disclosure as that of the aforesaid patent and that the disclosure of the application upon which Ferranti is now seeking a patent is in no manner different from or additional to the disclosure of said patent; that the claims in the said patent and the claims forming the counts of this interference merely differ in scope and for that reason a patent could not be granted to de Ferranti on his application involved in this interference for the

reason that it would be a mere double patenting of the invention patented by said issued patent No. 1,148,221.

TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, N. Y., October 27th 1915.

Room No. 261.

2—224

Paper No. 36.

Address only
"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.
GML.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

November 6, 1915
Mailed " " "
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6—1652

This case is before me on motion by Harmatta filed October 28, 1915 to transmit motion to dissolve.

The interference has been pending over two years and the motion comes therefore long after the time allowed by the rule for the presentation of motions of this character. Harmatta is involved upon patent No. 1,046,066. He moves to dissolve on the ground that De Ferranti has already obtained a patent for what is in substance the same invention as that involved herein and that it would be double patenting to grant the same party another patent for the subject-matter of this interference.

Transmission is objected to because of the delay in bringing the motion. It appears that patent No. 1,148,221 upon which motion is based, issued July 27, 1915. The present motion was not brought until three months after. There is no sufficient excuse why the motion could not have been presented earlier. Transmission is also objected to on the ground that Harmatta should not be permitted to urge the question of double patenting, but rather that this should be regarded as an *ex parte* question between De Ferranti and the office.

It seems to me that both objections are well taken. With respect to the first objection, it must be held that no sufficient explanation is given for the failure to bring the motion earlier. With respect to the second objection, it must be held that this is also well founded. De Ferranti is an applicant and he is entitled to contest with Harmatta the question of priority of invention. Even if as contended he has no right to a patent upon the application involved herein, there is apparently no reason why he may not at once file an application for the reissue of his patent No. 1,148,221. If Harmatta's contention is well founded to the effect that the subject matter of that patent and the subject matter herein issued are substantially the same, apparently the residue could be allowed.

Motion to transmit is denied.

Limit of appeal, November 17, 1915.

The taking of testimony is suspended.

H. E. STAUFFER,
Examination of Interferences.

Mail Room. Intf. No. 36,709. Paper No. 37.
Nov. 16, 1915.
U. S. Patent Office.
Docket.
Nov. 16, 1915.
U. S. Patent Office.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTI.

No. 36,709.

APPEAL TO THE HON. COMMISSIONER OF PATENTS.

The party Harmatta to the above-entitled Interference hereby appeals to the Honorable Commissioner of Patents in person from

the decision of the Examiner of Interferences rendered November 6th 1915 refusing to transmit to the Law Examiner the motion to dissolve brought by Harmatta.

The following are assigned as the reasons of appeal:

1. The Examiner was in error in refusing to transmit the motion to dissolve on the ground that no sufficient reason was given as to why the motion could not have been presented earlier.

2. The Examiner was in error in refusing to transmit the motion to dissolve on the ground that the question raised by the motion is merely an ex parte question between de Ferranti and the Office.

3. The Examiner was in error in refusing to transmit the motion to dissolve on the ground that Ferranti could obtain a reissue of his patent No. 1,148,221 referred to in the motion.

4. The Examiner was in error in refusing at all to transmit the motion to dissolve.

TOWNSEND & DECKER,
Attorneys for Harmatta

New York, November 15th 1915.

Rec. Vol. 118, Page 306.

DE FERRANTI

vs.

HARMATTI.

INTERFERENCE No. 36,709.

The office has no jurisdiction to try out a question of priority where one of the parties is a patentee unless the other party, if successful, is entitled to a patent: for a proceeding by an applicant who is not entitled to a patent conducted with the aim of establishing priority of invention over the patentee would be a mere attack upon the validity of the patent which must be made, if at all, in defense of a suit for infringement.

If it should be established that de Ferranti may not obtain a patent upon the present application because the subject-matter thereof is the same as that of his patent, he could perhaps cover the same matter by a reissue application, but an interference can be declared only after the reissue application has been filed.

As to Harmatta's delay in bringing the motion, the fact that his patent was held invalid in the district court in Massachusetts, and that the appeal heard last April was not decided until October is regarded as a sufficient excuse. Had the lower court been sustained, there would be nothing to fight about.

The decision of the Examiner of Interferences is sustained.

THOMAS EWING,
Commissioner.

December 2, 1915.

DE FERRANTI

vs.

HARMATTI.

INTERFERENCE NO. 36,709.

It has been called to my attention that in the opinion of December 2, the Examiner of Interferences is sustained, whereas it was intended that he should be reversed.

The opinion is accordingly corrected and the Examiner of Interferences is reversed.

THOMAS EWING,
Commissioner.

December 6, 1915.

EEG

2—201

Paper No. 38.

Address only
The Commissioner of Patents,
Washington, D. C.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON.

November 19, 1915.

Sir:

The Case of

DE FERRANTI

vs.

HARMATTA

APPEAL ON MOTION.

Interference No. 36,709, will be heard by the Commissioner on the 2nd day of December, 1915.

The hearings will commence at ten o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is

called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

THOMAS EWING,
Commissioner of Patents.

To S. Z. de Ferranti,

c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

To Johann Harmatta,

c/o Townsend & Decker,
149 Broadway, New York City.

Docket Clerk.

No. 36,709, Paper No. 39.

Dec. 2, 1915.

U. S. Patent Office.

UNITED STATES PATENT OFFICE,

BEFORE THE HONORABLE COMMISSIONER OF PATENTS ON APPEAL.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

BRIEF FOR HARMATTA.

This case comes up on appeal before your Honor by the moving party Harmatta from the decision of the Examiner of Interferences dated November 6th 1915, refusing to transmit the motion to dissolve filed October 28th 1915 by the party Harmatta. Transmission of the motion was refused first, on the ground of delay in presenting it and second, on the ground that the question raised by the motion, that is, double patenting, should be regarded as an ex parte question between de Ferranti and the Office.

STATEMENT OF THE CASE.

Harmatta, the senior party to the interference, is a patentee, and de Ferranti, the junior party, is an applicant, he having copied cer-

tain broad claims from the Harmatta patent No. 1,046,066 involved in this interference for the purpose of contesting priority thereof with Harmatta. Harmatta's patent involved in this interference was issued on December 3rd 1912 on an application filed December 3rd 1903. De Ferranti's application involved in this interference was not filed until December 29th 1911 as an alleged division of an earlier application of his filed May 14th 1904. The claims of the interference are for a process of electric welding now broadly known as "spot welding." On July 27th 1915 de Ferranti, the junior party to this interference, had issued to him a United States patent No. 1,48,221 for Process for Electrically Welding Turbine Blades, this being the patent issued on the original application of which Ferranti's application directly involved in this interference is alleged to be a division. Figures 1 and 2 of this patent are the same as the figures of the Ferranti application in the interference. The claims of the patent are for a process or method based on the disclosures of Figures 1 and 2 which are also the subject of the pending application.

The substance of the motion now brought by Harmatta to dissolve the interference is that the issuing of a patent to de Ferranti for the invention claimed in his application declared to be in interference with Harmatta would effect a double patenting of the invention already patented to de Ferranti by his Letters Patent No. 1,148,221.

DELAY IN PRESENTING MOTION.

De Ferranti, the junior party, has closed his proofs but has not actually taken any testimony, he having merely introduced a certified copy of a British Provisional application alleging to disclose the subject-matter of the interference, so that it cannot be contended that Ferranti has been put to any material needless expense in trying out the question of priority which could lead to the contention that the interference should be decided on priority and not dissolved.

The time for taking Harmatta's case has not yet terminated but likewise he has not yet actually taken any testimony. While the interference may have been pending for a period of two years, it having been declared on the 7th of October 1913, yet, nevertheless, the present motion could not have been brought within the time called for by the rules for the reason that the Ferranti patent which warrants the bringing of the motion was not issued until July 27th 1915. Harmatta's attorneys became aware of the issuance of this patent about the first part of September 1915 but at this time the interference practically stood suspended for reasons which appear of record in this case, to wit: The Harmatta patent involving the claims of this interference was being construed by the United States Courts as to its validity and a decision of the United States District Court had already been rendered declaring all the claims of the patent invalid for want of invention over the

prior art. An appeal from that decision was filed and argued in April of the present year and the decision of the United States Circuit Court of Appeals was not yet handed down but was being awaited from day to day. Having a decision against the validity of the claims, it did not seem justice to compel prosecution of the interference at least until the nature of the decision of the Court of Appeals was learned, especially as the appeal had been argued some time before and the result thereof was daily expected. For this reason Harmatta was obtaining extensions of his time for taking his case in this interference and, as above stated, at the time of knowledge of the issuance of the Ferranti patent, to wit: September, the interference was practically suspended.

In the early part of October 1915 the opinion of the Circuit Court of Appeals on the Harmatta patent was handed down, by which opinion the Court reversed the decision of the lower Court and held the claims valid. The attorneys for the party Harmatta immediately then took up the interference for active prosecution and, it being concluded that the issuance of the aforementioned patent to Ferranti formed a complete bar to Ferranti's obtaining a patent on the subject of his present application, the present motion to dissolve was filed on October 28th 1915.

It is thought that under the circumstances of the case the delay is not an unreasonable one and is not one which Harmatta should be chargeable with. Even though there may have been some delay in presenting the motion, the delay at most has not been a very material one which can, in justice, be charged against Harmatta. The fact remains that the parties have not as yet been put to any expense of actually contesting the interference and, as it is the strenuous contention of counsel for Harmatta that the Ferranti patent already issued absolutely prevents him from obtaining a valid patent on the subject of the interference, it would be an injustice and cause the expenditure of needless moneys and time to continue the interference.

MERITS OF THE MOTION TO DISSOLVE.

As the Examiner of Interferences has also refused transmission of the motion for reasons affecting the merits thereof, it is thought advisable to at this time refer in as brief a manner as possible before your Honor to Harmatta's contentions as to why or how the Ferranti patent referred to forms a complete bar to the obtaining of a patent by Ferranti on the subject of the interference. In the issued patent Ferranti describes and claims a certain method of electrically welding turbine blades to their carrying element. In his application involved in this interference he claims the method of electric welding which is based on the same identical process as that claimed in the patent, the wording of the claims of the application, however, being different than the wording of the claims of the patent although both are drawn to processes. The claims of the application are broader in scope than those of the patent and if

granted in a patent to Ferranti with a construction broad enough to cover the process he discloses, would be to grant to Ferranti an extension of the monopoly previously granted to him by his issued patent No. 1,148,221.

It is absolutely correct to say that in his patent No. 1,148,221 referred to in the motion, Ferranti claims his same substantial method or process that he claims in his application in interference and that there is no difference in the two methods to be inferred merely because in the patent he defines the process by reference to the result of welding onto the projections. In other words, in the application in interference the invention claimed is a method or process of welding done by welding to projections while in the patent the method or process is identified by the necessary physical action which takes place in the operation of welding to the projections.

In reaching a satisfactory conclusion on this matter it must be borne in mind that the drawings and specifications of the application and patent are substantially alike; that the one describes no other or different operation than that described and set forth in the other; that the two are based upon the same identical original application; that they do not bear the relation to one another of invention and improvement; that the claims, though in different words, refer to exactly the same practical operation and are founded upon the invention as disclosed in the original application and that the patent claim differs from the application claim only in describing a function of the operation omitted from the application claim. Assuming that it were true, which does not appear to be the case, that one might perhaps modify the operation as claimed in the application so that the normal equalization of the heat capacity would not take place, it nevertheless remains true that no such suggestion or modification of operation is in any manner suggested in either specification or in the drawings of either case. In other words, *the process or operation patented by the patent is the same as that which the applicant seeks to patent by the application.*

It seems to us clear that the matter sought to be covered by the patent is inseparably involved in the matter sought to be covered by the application; that the patent and application are in fact for the same substantial invention and that the circumstances of this case are exactly parallel to the leading cases of Thomson-Houston Electric Co. vs. Housic Railway Co., 82 Fed. 461, Circuit Court of Appeals, 2nd Circuit, Thomson-Houston Electric Co. vs. Jeffrey Mfg. Co., 101 Fed. 121, C. C. A., 6th Circuit, which have been followed in numerous other cases and which were founded upon decisions of the Supreme Court of the United States rendered on substantially the same state of facts in the case of Miller vs. Mfg. Co., 151 U. S. 198. We also cite:

Plummer vs. Sargent, 120 U. S. 442;

Lock Co. vs. Mosler, 127 U. S. 354;

McClain vs. Ortmeier, 141 U. S. 419;

Palmer Pneumatic Tire Co. vs. Lozier, 90 Fed. Rep. 732;
Thomson-Houston Co. vs. Black River Co., 124 Fed. Rep.
501;
Malby Electric vs. Thomson-Houston, 148 Fed. Rep. 845;
Thomson-Houston vs. Western Electric, 158 Fed. Rep. 813.

Under the authority of these cases the Patent Office is confronted with the condition that de Ferranti has now obtained a patent for the actual invention for which he is seeking a patent by the application in interference and that said patent must stand as an effectual bar to the grant of a patent upon the application. In principle the circumstances and conditions now confronting the Commissioner on the state of facts arising from the act of the applicant in taking the patent are in no wise different than they would be if it should be discovered that the invention had been patented to some other person or even to the applicant himself by a previous patent granted prior to any date of invention appearing in this record either by the application on record or by allegation of the preliminary statement and that both parties now having obtained a patent it is the plain duty of the Commissioner to terminate this interference, leaving the party Ferranti to take such step or steps as he may be advised are necessary in order to protect his rights. It was suggested, by counsel for Ferranti at the hearing below, that the difficulties of the situation might be cured by the filing of a disclaimer, but what kind of a disclaimer would be applicable to these circumstances and whether or not the case is one for disclaimer under the law, or whether in fact a disclaimer in one of two patents conflicting in being for the same invention would operate to make the other valid, and whether or not any actual disclaimer has been filed or will be filed, are matters upon which the Commissioner is not called upon to pass at this stage of the case or under the status of the record as now presented to the Commissioner. What the applicant may choose to do lies wholly within his own mind and is subject wholly to future action on his behalf. It does not seem to us proper that the Commissioner should endeavor to anticipate that action either in respect to the matter of disclaimer or in respect to the possibility of a reissue as suggested by the Examiner of Interferences. The applicant has not filed a reissue and whether he will do so or not is a matter resting wholly in the future upon his own will and upon some approved course of action to be determined upon by himself or his attorneys.

The fact is that the patent stands at present as an effectual bar to the grant of a patent to Ferranti upon the application and it is not to be supposed that the Commissioner will decide the present matter upon the facts before him by endeavoring to anticipate which of two courses of action the applicant may take to remedy the difficulty in which he has placed himself, if indeed there be any difficulty, or by endeavoring to anticipate what decision he would render in the case of some disclaimer the actual nature of which can

only be disclosed when the disclaimer is filed, or what his action would be in case the applicant should file an application for reissue, the actual nature of such reissue or the grounds upon which it should be sought being only before the Commissioner in shape for his decision when the reissue application is actually filed.

Neither the above suggestion of de Ferranti's attorney nor the suggestion of the Examiner of Interferences can be adopted as a ground for a decision upon the present state of facts, for it would require the Commissioner to speculate as to the nature and effect of some future action of the applicant de Ferranti.

Aside from any question of delay, this case is one plainly calling for the exercise of the supervisory power of the Commissioner to prevent the carrying on of an entirely useless proceeding in view of the circumstances now existing and making a condition of affairs brought about solely by the action of the applicant Ferranti himself. Only by resort to speculation as to what applicant might do or what might be legally done and by making this case practically a moot case, can there be found any justification for continuing the present proceeding upon the existing state of facts.

Some suggestion has been made that the objection that the invention covered by the patent and that covered by the application are inseparably involved may be avoided on some theory that the patent is for a method of attaching turbine blades and that in the application claim no reference is made to attaching turbine blades. In our view this suggestion has no merit and does not remove the difficulty. The argument seems to be simply that a lawful line of separation of patent and application is found in the fact that the patent claims one use or application of the process and that the application claim is not limited in terms to that use. A mere statement of the argument seems to us to carry its own confutation. We never yet heard of a case in which a Court has been asked to find a line of division between two patents or claims, so that both patents may be declared valid, upon the argument that one calls for or specifies the only use or application of the invention that is set forth by the inventor while the claim of the other is distinguishable only from the first as a claim of invention in failing to state that use or application, thereby covering all uses including the one specified. In fact sufficient ground for the rejection of this argument is found in the repeated refusals of the Patent Office and the Courts to recognize the validity of two patents founded upon the same description and specification where one patent claims the invention generically and the other claims the same and no other invention specifically. Numerous cases on this proposition might be cited but even apart from that, it is self-evident that the inventions do not become different merely because the patentee recites in one the principal and practically the only proposed use of his invention, while in the other he claims his invention without particular reference to that principal and useful application of the same.

It is self-evident that in any event the present is not a case for

resort to the use of a disclaimer for the reason that the matter of the patent and application are inseparable as patentable matters and disclaimers are only permissible under the Statute and the patent law in cases where the matter disclaimed is a distinct and separable part of the matter claimed. A mere statement of function certainly cannot be disclaimed nor is it the office of a disclaimer to vary the words of a claim to make that which is generic specific, or to make that which is specific generic, nor can there be found any case, we believe, in which it has been held that a disclaimer may be resorted to for the purpose of eliminating from a claim the intended and only practical use of the invention set forth or proposed or suggested by the patentee in the manner found in the present case.

Applying the principle laid down in *Miller vs. Mfg. Co.*, 151 U. S. 186, the Court held in *Palmer Pneumatic Tire Co. vs. Lozier*, 90 Fed. 732, C. C. A., 6th Circuit, that where the characteristic and essential element of a patented article is made the subject of a later patent, the last and not the first patent is void and this the Court held even though the invention of such element preceded that of the completed article. In the course of its decision the Court, interpreting *Miller vs. Mfg. Co.*, distinctly said that in that case

"The second patent was held void upon the ground that the matter of the invention was included in the matter of the invention for which the former patent was granted. That decision shows that it is not necessary to the rule that the patents should be for co-extensive inventions, or that the subject-matter thereof should be technically the same. The rule rests upon the broad and obvious ground that, if the second patent is for an invention that was necessary to the use of the invention first patented, it cannot be sustained."

It hardly needs further discussion to demonstrate that this principle applies exactly to the present case for as a matter of fact de Ferranti has suggested no way in which the invention of the patent which he has caused to be issued could be practiced without using the invention claimed in his application and, as a matter of fact, it is clear that the subject-matter forming the invention of the application is covered by the invention patented by the patent. In principle it is clear that there is no essential difference between the case in which the characteristic and essential element of the previously patented article is made the subject of a later patent and one in which a characteristic and essential element of a patented process is made or proposed to be made the subject of a later patent and this remains true where the process as claimed in the first patent contains supposedly limiting words limiting it to the principal and only disclosed application of the process as in the present case.

Indeed the suggestion that the difficulty in which de Ferranti has placed himself by taking the patent may be cured by a disclaimer to be hereafter filed or a reissue to be hereafter made, amounts practically to suggesting that the Commissioner now arrive at his de-

cision upon the question before him by treating the record before him as a moot record and that the interference from now on be conducted as a moot proceeding.

Having issued a patent to Ferranti, the Commissioner is without power to continue this interference because his authority under the law (Section 4904) is confined solely to determining the question of priority of invention as between an applicant and a patentee or between two pending applications, and assuming that the interference was properly declared in the beginning, the interference is now, owing to the issuance of the patent to de Ferranti for the same invention as that forming the subject of the application, one between two patents. Both parties to the interference now have a patent for the same invention. Under such circumstances the Section 4918 providing for a procedure by suit in equity whenever there are interfering patents, becomes the only section applicable to the case.

The power of the Commissioner to institute the interference arose solely under Section 4904 and solely because de Ferranti was presumably an applicant for the same invention as that for which Harmatta had obtained a patent and it was necessary under the Statute, for the Commissioner to determine the question of priority of invention in order to determine whether a second patent should be issued to de Ferranti for the same invention. A patent to de Ferranti having, however, been issued by the Commissioner, he is without authority to further continue this proceeding, since Section 4904 is the only section under which he is authorized to conduct interference proceedings.

There can be no question that the patent issued to de Ferranti is for the same invention as that for which he sought a patent by his original application and the existence of the patent now issued to him constitutes as complete a bar under the law to the issuance of the patent upon the application as now contained in the interference as if said issued patent were a prior patent to another inventor. Furthermore and beyond any question, the invention as claimed in the application is necessary to the practice of the invention covered by the claims in the patent issued and this fact creates the insuperable objection to the continuance of the proceeding and the issuance of any further patent to de Ferranti upon his application claims that said patent would prolong the monopoly secured to him by the patent already issued.

IN CONCLUSION, FERRANTI HAS BY HIS PATENT OBTAINED A MONOPOLY FOR A PROCESS APPLIED TO TURBINE MANUFACTURE INCLUDING THE PROCESS DISCLOSED BY FIGS. 1 AND 2 THEREOF; HE NOW ATTEMPTS TO COVER, IN THE APPLICATION, THE PROCESS OF FIGS. 1 AND 2 APPLIED BROADLY TO ANY APPLICATIONS OR USES OF IT AND THEREBY, IF SUCCESSFUL IN THIS ATTEMPT, HE WOULD BE EXTENDED THE LIFE OF THE MONOPOLY GRANTED BY THE PATENT ALREADY ISSUED.

The above facts are also directly in line with the case of American Bell Telephone Co. vs. National Telephone Co. et al., 109 Fed. Rep. 976, in which the Court held that

"The Berliner patent, No. 463,569, claim 2, for a telephone transmitter, was anticipated by patent No. 233,969, to the same patentee, issued on a division of the same application, and which, in claim 4, covers a system consisting of the same transmitter in connection with a receiver, but in which such transmitter performs the same function as with any other receiver, and is applied to its appropriate and intended use; a receiver of some kind being essential to its operation."

It is respectfully submitted and urged that this interference should be dissolved upon the law and the facts disclosed above either by transmission of the same to the Law Examiner for decision on the motion to dissolve or by order of the Commissioner acting under his supervisory powers.

Respectfully,

TOWNSEND & DECKER,

Attorneys for Harmatta

New York, Dec. 1, 1915.

FOR PAPER NO. 40 SEE INDEX.

EEG

Letter No. 41.

Address only

The Commissioner of Patents,
Washington, D. C.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON.

December 3, 1915.

IN THE MATTER OF THE INTERFERENCE OF

DE FERRANTI

VS.

HARMATTA

INTERFERENCE NO. 36,709.

APPEAL ON MOTION.

Sir:

You are hereby informed that the decision of the Commissioner on the above appeal is as follows:

The office has no jurisdiction to try out a question of priority where one of the parties is a patentee unless the other party, if successful, is entitled to a patent: for a proceeding by an applicant who is not entitled to a patent conducted with the aim of establishing priority of invention over the patentee would be a mere attack upon

the validity of the patent which must be made if at all, in defense of a suit for infringement.

If it should be established that de Ferranti may not obtain a patent upon the present application because the subject-matter thereof is the same as that of his patent, he could perhaps cover the same matter by a reissue application, but an interference can be declared only after the reissue application has been filed.

As to Harmatta's delay in bringing the motion, the fact that his patent was held invalid in the district court in Massachusetts, and that the appeal heard last April was not decided until October is regarded as a sufficient excuse. Had the lower court been sustained, there would be nothing to fight about.

The decision of the examiner of interferences is sustained

THOMAS EWING,
Commissioner.

December 2, 1915.

#36,709—2.

By direction of the Commissioner:

Very respectfully,
W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
149 Broadway, New York City.

Mail Room. No. 36,709 Paper No. 42.

Dec. 6, 1915.

U. S. Patent Office.
Docket Clerk.

Dec. 6, 1915.

U. S. Patent Office.

(Printed Letter Head Omitted)

New York, December 4th, 1915.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

IN THE MATTER OF THE INTERFERENCE OF

DE FERRANTI

vs.

HARMATTA

No. 36,709.

We have received a copy of the decision of the Commissioner of Patents dated December 3rd, 1915, on the appeal on Harmatta's

Motion to transmit a Motion to Dissolve. The whole text of this decision clearly seems to be that the Examiner of Interferences is reversed and in fact the attorneys so understood the Commissioner to state at the hearing, although the copy of the decision we have concludes with the expression:

"The decision of the Examiner of Interferences is sustained."

We think this is an obvious error and respectfully request information.

CFT/IL

Very respectfully,
TOWNSEND & DECKER.

FOR PAPER NO. 43 SEE INDEX.

Address only
The Commissioner of Patents,
Washington, D. C.

Letter No. 44.

EEG

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON,

December 6, 1915.

IN THE MATTER OF THE INTERFERENCE OF

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

APPEAL ON MOTION.

Sir:

You are hereby informed that the following is a copy of a supplemental decision of the Commissioner in the above entitled case:

It has been called to my attention that in the opinion of December 2, the Examiner of Interferences is sustained, whereas it was intended that he should be reversed.

The opinion is accordingly corrected and the Examiner of Interferences is reversed.

THOMAS EWING,
Commissioner.

December 6, 1915.

By direction of the Commissioner:

Very respectfully,
W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.
Johann Harmatta,
c/o Townsend & Decker,

Address only
The Commissioner of Patents,
Washington, D. C.

E-EEG 36,709. Letter No. 45.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON,

December 7, 1915.

IN THE MATTER OF THE INTERFERENCE OF

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Sir:

You are hereby informed that a hearing on the motion to dissolve filed by Harmatta has been fixed before the Law Examiner, in Room 273, for Wednesday, January 5, 1916, at 10 A. M.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,

c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,

c/o Townsend & Decker,
149 Broadway, New York City.

Docket Clerk. Intf.

No. 36,709. Paper No. 46.

Dec. 8, 1915.

U. S. Patent Office.

District of Columbia, ss:

Bessie I. Bishop, being duly sworn, deposes and says that she is a Clerk in the employ of Spear, Middleton, Donaldson & Spear, and that on the 7th day of December, 1915, she placed a copy of the attached motion for a rehearing in an envelope addressed to Townsend & Decker, 149 Broadway, New York, and that she sent the same by registered mail, as per the registered receipt hereto attached.

BESSIE I. BISHOP.

Sworn to and subscribed before me this 8th day of December, 1915.

(Seal)

BENNETT S. JONES,
Notary Public.

IN THE UNITED STATES PATENT OFFICE.

Denied Dec. 29, 1915.
 THOMAS EWING,
Commissioner of Patents.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

TO THE COMMISSIONER OF PATENTS.

Now comes the party De Ferranti by his Attorneys and petitions your Honor for a rehearing on the appeal of the party Harmatta from decision of the Primary Examiner refusing to transmit the motion to dissolve.

The grounds on which the rehearing is asked are as follows:

First, your Honor failed to take note of the fact that claims for substantially the same invention which forms the subject matter of the counts of the issue in the present interference, were twice made in the parent applicant, upon which patent No. 1,148,221 of De Ferranti was issued, and said claims were twice rejected by the Examiner and required to be cancelled as being for a separate invention from the other claims. Such claims were first made by amendment ¹ in amendment of December 8th, 1909 and again presented as claims 8, 9 and 10 of Paper No. 27, dated December 6th, 1910.

The Office having therefore placed itself on record as holding that the invention included in the counts of the present interference is for a different invention from that contained in the claims of the patent of De Ferranti, and this question being of no consequence in respect to priority of invention, said De Ferranti should not *at this stage of the proceedings* have placed upon him the burden of proving that the Office was right in its original holding.

The second ground is that the Harmatta patent, having been pending during the time when applicant was presenting claims for the invention included in the counts of the issue, in an application which afforded basis for such claims, the issue of the patent to Harmatta was clearly by inadvertence on the part of the Office and under the decisions, Harmatta is not entitled to derive any advantage from the mistake by the Patent Office. In *Watson vs. Thomas*, 106 O. G. 1776, it was held that where the patent was inadvertently granted "the two parties in the interference proceeding are to be treated as applicants with copending applications," citing *Wurtz vs.*

Harrington, 79 O. G. 337. See also Shaffer vs. Dolan, 108 O. G. 2146; Furman vs. Dean, 114 O. G. 1552; Paul vs. Hess, 115 O. G. 251; and Cutler vs. Leonard, 136 O. G. 438.

Third, it was believed your Honor, in considering the delay in bringing the motion, failed to consider the fact that the interference had progressed to a stage where De Ferranti had introduced all of his evidence which ineluctibly carried his date of invention back of Harmatta's date of filing.

Therefore, a rehearing of the matter and a reconsideration of your Honor's decision reversing the action of the Examiner of Interferences is respectfully requested.

Respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

RECEIPT FOR REGISTERED MAIL.

No. 190593 ,
Washington (Sta G) D. C.
Registered, Dec. 7, 1915.
1 class postage prepaid. Postmaster, per H.

Docket Clerk.
Dec. 15, 1915.
U. S. Patent Office.

36,709—47.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

Please permit Messrs. Havell & Havell of Washington, D. C., to inspect the file of the above interference.

TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, December 14th, 1915.

FOR PAPER NO. 48 SEE INDEX.

Defendant's Exhibit No. 33.

593

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

December 30, 1915.

IN THE MATTER OF THE INTERFERENCE OF
DE FERRANTI

v's.

HARMATTA.

INTERFERENCE No. 36,709.

PETITION BY DE FERRANTI FOR REHEARING.

Sir:

You are hereby informed that the decision of the Commissioner
on the above petition is as follows:

DENIED

DEC. 29, 1915

THOMAS EWING,
Commissioner of Patents.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
149 Broadway, New York City.

Docket Clerk.
Jan. 3, 1916.
U. S. Patent Office.

36,709—50.

UNITED STATES PATENT OFFICE,
BEFORE THE LAW EXAMINER.

In re Interference:

SEBASTIAN ZIANI DE FERRANTI

v's.

JOHANN HARMATTA.

No. 36,709.

BRIEF FOR HARMATTA.

This interference now comes before your Honor for decision on
the merits of a motion to dissolve brought by Harmatta and duly

transmitted to your Honor after appeal to the Honorable Commissioner of Patents in person.

Harmatta, the senior party to the interference, is a patentee, and de Ferranti, the junior party, is an applicant, he having copied certain broad claims from the Harmatta patent No. 1,046,066 involved in this interference for the purpose of contesting priority thereof with Harmatta. Harmatta's patent involved in this interference was issued on December 3rd 1912 on an application filed December 3rd 1903. De Ferranti's application involved in this interference was not filed until December 29th 1911 as an alleged division of an earlier application of his filed May 14th 1904. The claims of the interference are for a process of electric welding now known broadly as "spot welding." On July 27 1915 de Ferranti, the junior party to this interference, had issued to him a United States patent No. 1,148,221 for Process for Electrically Welding Turbine Blades, this being the patent issued on the original application of which Ferranti's application directly involved in this interference is alleged to be a division. Figures 1 and 2 of this patent are the same as the figures of the Ferranti application in the interference. The claims of the patent are for a process or method based on the disclosures of Figures 1 and 2 which are also the subject of the pending application.

The substance of the motion now brought by Harmatta to dissolve the interference is that the issuing of a patent to de Ferranti for the invention claimed in his application declared to be in interference with Harmatta would effect a double patenting of the invention already patented to de Ferranti by his Letters Patent No. 1,148,221.

In his issued patent No. 1,148,221 Ferranti describes and claims a certain method of electrically welding turbine blades to their carrying element. In his application involved in this interference he claims the method of electric welding which is based on the same identical process as that claimed in the patent, the wording of the claims of the application, however, being different than the wording of the claims of the patent although both are drawn to processes. The claims of the application are broader in scope than those of the patent and if granted in a patent to Ferranti with a construction broad enough to cover the process he discloses, would be to grant to Ferranti an extension of the monopoly previously granted to him by his issued patent No. 1,148,221.

The contention is absolutely correct that in his patent No. 1,148,221 referred to in the motion, Ferranti claims his same substantial method or process that he claims in his application in interference and that there is no difference in the two methods to be inferred merely because in the patent he defines the process by reference to the result of welding onto the projections. In other words, in the application in interference the invention claimed is a method or process of welding done by welding to projections while in the patent the method or process is identified by the necessary physical ac-

tion which takes place in the operation of welding to the projections.

IN REACHING A SATISFACTORY CONCLUSION IN THIS MATTER IT MUST BE BORNE IN MIND THAT THE DRAWINGS AND SPECIFICATIONS OF THE APPLICATION AND PATENT ARE EXACTLY ALIKE; THAT THE ONE DESCRIBES NO OTHER DIFFERENT OPERATION THAN THAT DESCRIBED AND SET FORTH IN THE OTHER; THAT THE TWO ARE BASED UPON THE SAME IDENTICAL ORIGINAL APPLICATION; THAT THEY DO NOT BEAR THE RELATION TO ONE ANOTHER OF INVENTION AND IMPROVEMENT; THAT THE CLAIMS, THOUGH IN DIFFERENT WORDS, REFER TO EXACTLY THE SAME PRACTICAL OPERATION AND ARE FOUNDED UPON THE INVENTION AS DISCLOSED IN THE ORIGINAL APPLICATION AND THAT THE PATENT CLAIM DIFFERS FROM THE APPLICATION CLAIM ONLY IN DESCRIBING A FUNCTION OF THE OPERATION OMITTED FROM THE APPLICATION CLAIM. Assuming that it were true, which does not appear to be the case, that one might perhaps modify the operation as claimed in the application so that the normal equalization of the heat capacity would not take place, it nevertheless remains true that no such suggestion or modification of operation is in any manner suggested in either specification or in the drawings of either case. In other words, *the process or operation patented by the patent is the same as that which the applicant seeks to patent by the application.*

INVENTIONS OF PATENT AND APPLICATION INSEPARABLE.

It seems to us clear that the matter sought to be covered by the patent is inseparably involved in the matter sought to be covered by the application; that the patent and application are in fact for the same substantial invention and that the circumstances of this case are exactly parallel to the leading cases of Thompson-Houston Electric Co. vs. Housic Railway Co., 82 Fed. 461, Circuit Court of Appeals, 2nd Circuit, Thomson-Houston Electric Co. vs. Jeffrey Mfg. Co., 101 Fed. 121, C. C. A., 6th Circuit, which have been followed in numerous other cases and which were founded upon decisions of the Supreme Court of the United States rendered on substantially the same state of facts in the case of Miller vs. Eagle Co., 151 U. S. 186. We also cite:

Plummer vs. Sargent, 120 U. S. 442;

Lock Co. vs. Mosler, 127 U. S. 354;

McClain vs. Ortmeier, 141 U. S. 419;

Palmer Pneumatic Tire Co. vs. Lozier, 90 Fed. Rep. 732;

Thomson-Houston Co. vs. Black River Co., 124 Fed. Rep. 501;

Malby Electric vs. Thomson-Houston, 148 Fed. Rep. 845;

Thomson-Houston vs. Western Electric, 158 Fed. Rep. 813.

Under the authority of these cases the Patent Office is confronted *with the condition that de Ferranti has now obtained a patent for the actual invention for which he is seeking a patent by the application in interference and that said patent must stand as an effectual bar to the grant of a patent upon the application.* In principle the circumstances and conditions now confronting the Patent Office of the state of facts arising from the act of the applicant in taking the patent are in no wise different than they would be if it should be discovered that the invention had been patented to some other person or even to the applicant himself by a previous patent granted prior to any date of invention appearing in this record either by the application on record or by allegation of the preliminary statement and that both parties now having obtained a patent it is the plain duty of the Patent Office to terminate this interference, leaving the party Ferranti to take such step or steps as he may be advised are necessary in order to protect his rights.

Some suggestion has been made that the objection that the invention covered by the patent and that covered by the application are inseparably involved may be avoided on some theory that the patent is for a method of attaching turbine blades and that in the application claim no reference is made to attaching turbine blades. In our view this suggestion has no merit and does not remove the difficulty. The argument seems to be simply that a lawful line of separation of patent and application is found in the fact that the patent claims one use or application of the process and that the application claim is not limited in terms to that use. A mere statement of the argument seems to us to carry its own confutation. We never yet heard of a case in which a Court has been asked to find a line of division between two patents or claims, so that both patents may be declared valid, upon the argument that one calls for or specifies the only use or application of the invention that is set forth by the inventor while the claim of the other is distinguishable only from the first as a claim of invention in failing to state that use or application, thereby covering all uses including the one specified. In fact sufficient ground for the rejection of this argument is found in the repeated refusals of the Patent Office and the Courts to recognize the validity of two patents founded upon the same description and specification where one patent claims the invention generically and the other claims the same and no other invention specifically. Numerous cases on this proposition might be cited but even apart from that, it is self-evident that the inventions do not become different merely because the patentee recites in one the principal and practically the only proposed use of his invention, while in the other he claims his invention without particular reference to that principal and useful application of the same.

Applying the principle laid down in *Miller vs. Eagle Co.*, 151 U. S. 186, the Court held in *Palmer Pneumatic Tire Co. vs. Lozier*, 90 Fed. 732, C. C. A., 6th Circuit, that where the characteristic and essential element of a patented article is made the subject of a later patent, the last and not the first patent is void and this the Court

held even though the invention of such element preceded that of the completed article. In the course of its decision the Court, interpreting *Miller vs. Eagle Co.*, distinctly said that in that case

"The second patent was held void upon the ground that the matter of the invention was included in the matter of the invention for which the former patent was granted. That decision shows that it is not necessary to the rule that the patents should be for co-extensive inventions, or that the subject-matter thereof should be technically the same. The rule rests upon the broad and obvious ground that, if the second patent is for an invention that was necessary to the use of the invention first patented, it cannot be sustained."

It hardly needs further discussion to demonstrate that this principle applies exactly to the present case, for as a matter of fact de Ferranti has suggested no way in which the invention of the patent which he has caused to be issued could be practiced without using the invention claimed in his application and, as a matter of fact, it is clear that the subject-matter forming the invention of the application is covered by the invention patented by the patent. In principle it is clear that there is no essential difference between the case in which the characteristic and essential element of the previously patented article is made the subject of a later patent and one in which a characteristic and essential element of a patented process is made or proposed to be made the subject of a later patent and this remains true where the process as claimed in the first patent contains supposedly limiting words limiting it to the principal and only disclosed application of the process as in the present case.

The state of facts existing in Ferranti's patent and application leads to the query: *HOW CAN TWO DIFFERENT INVENTIONS BE PREDICATED UPON OR EVEN INCLUDE THE SAME PROCESS?* The mere addition to the claim of unpatentable features or features old in the art or features necessary to the carrying out of the process does not make it a different invention.

THE PROCESS OF FIGS. 1 AND 2 OF THE PATENT, IT MUST BE ADMITTED, IS COVERED BY THE CLAIMS IN THE PATENT; therefore the process claims of the application must necessarily be for the same invention, they being predicated on the process disclosed by Figs. 1 and 2 even though they may be expressed in a different guise and in some cases with the addition of unpatentable features.

As was held in *Ex parte Woodward*, 1890 C. D. 169, separate patents cannot be allowed for the same invention under different guises or as different mental figments.

Applications are not severable excepting upon structural (that is, physical) lines which actually divide the machine (process) into separable parts. By taking out a patent for the device arranged to operate in a specific manner the applicant abandoned to the public

the more general claims which might have been predicated upon the same combination of parts. See *Fassett vs. Ewart Mfg. Co.*, 58 Fed. 360.

The claims of the Ferranti application are based upon the same original application as the patent and are predicated on the same inventive act. The case is not that of an application for a broad invention followed by an application for a subsequently invented improvement and therefore to issue a patent to Ferranti on his present application would result in double patenting following the ruling laid down in *Otis Elevator Co. vs. Portland Co.*, 127 Fed. 557. See also on this point *Morse Chain Co. vs. Link Belt Co.*, 164 Fed. 331.

Having issued a patent to Ferranti, the Commissioner is without power to continue this interference because his authority under the law (Section 4904) is confined solely to determining the question of priority of invention as between an applicant and a patentee or between two pending applications, and assuming that the interference was properly declared in the beginning, the interference is now, owing to the issuance of the patent to de Ferranti for the same invention as that forming the subject of the application, one between two patents. Both parties to the interference now have a patent for the same invention. Under such circumstances the Section 4918 providing for a procedure by suit in equity whenever there are interfering patents, becomes the only section applicable to the case.

The power of the Commissioner to institute the interference arose solely under Section 4904 and solely because de Ferranti was presumably an applicant for the same invention as that for which Harmatta had obtained a patent and it was necessary, under the Statute, for the Commissioner to determine the question of priority of invention in order to determine whether a second patent should be issued to de Ferranti for the same invention. A patent to de Ferranti having, however, been issued by the Commissioner, he is without authority to further continue this proceeding, since Section 4904 is the only section under which he is authorized to conduct interference proceedings.

THE SUBJECT-MATTER OF THE APPLICATION (THE PROCESS OF FIGS. 1 AND 2) IS COMPLETELY EMBODIED IN THE CLAIMS OF THE PATENT.

There can be no question that the patent issued to de Ferranti is for the same invention as that for which he sought a patent by his original application and the existence of the patent now issued to him constitutes as complete a bar under the law to the issuance of the patent upon the application as now contained in the interference as if said issued patent were a prior patent to another inventor. Furthermore and beyond any question, the invention as claimed in the application is necessary to the practice of the invention covered by the claims in the patent issued and this fact creates the insuperable objection to the continuance of the proceeding and the issuance of any further patent to de Ferranti upon his applica-

tion claims that said patent would prolong the monopoly secured to him by the patent already issued.

The above facts are also directly in line with the case of American Bell Telephone Co. vs. National Telephone Co., et al., 109 Fed. Rep. 976, in which the Court held that

"The Berliner patent, No. 463,569, claim 2, for a telephone transmitter, was anticipated by patent No. 233,969, to the same patentee, issued on a division of the same application, and which, in claim 4, covers a system consisting of the same transmitter in connection with a receiver, but in which such transmitter performs the same function as with any other receiver, and is applied to its appropriate and intended use; a receiver of some kind being essential to its operation."

SPECIFIC AND BROAD CLAIMS.

In his patent Ferranti has specified claims to the process as used for a specific purpose, while in the application the claims are broad to the process for any uses.

Where a patent has been issued for specific devices, a second patent with generic claims covering the specific devices would be void for double patenting. *Gold vs. Gold*, 187 Fed. 273.

A patent with specific narrow claims followed by a second patent with claims of broad or generic scope based on an improvement is double patenting. *Union Typewriter vs. Smith & Bros.*, 173 Fed. 288.

Two patents may be for the same invention although the earlier claims only a specific machine and the later claims broadly a genus which includes the earlier specific machine and others as well. *Otis Elevator Co. vs. Portland Co.*, 127 Fed. 557.

There is no line of division based merely on scope or breadth of claim. *Porter vs. Loudon*, 73 O. G. 1551 (Court of Appeals of the District of Columbia).

No lawful decision based upon a mere distinction of scope of claims based upon the same subject-matter or entity. *Ex parte Holt*, 1884 C. D. 43 is a clear statement of the case. See also *Ex parte Mullen*, 1890 C. D. 9 in which the cases in which division is permissible are clearly expounded. Also, *Ex parte Neiswanger*, 1890 C. D. 37.

RULE 106.

"When a part only of an application is involved in an interference, the applicant may withdraw from his application the subject-matter adjudged not to interfere, and file a new application therefor, or he may file a divisional application for the subject-matter involved, if the invention can be legitimately divided; PROVIDED, That no claim shall be made in either application broad enough to include matter claimed in the other."

Clearly Ferranti's position is in violation of the provisions of this rule of the Patent Office in that the claims of both his patent and his application are broad enough to cover the process claimed in both cases and this must necessarily be so as the claims of both cases are drawn to cover the same identical process of welding.

IN ORDER TO RECEIVE TWO PATENTS FERRANTI MUST HAVE TWO INVENTIONS AND HOW CAN HE HAVE TWO INVENTIONS WHEN HE HAS INVENTED ONLY ONE PROCESS?

REISSUE AND DISCLAIMER.

As it has been argued that the difficulty of double patenting might be cleared up by either of the above remedies, to wit,—re-issue or disclaimer, it might be well to briefly allude to them although they are entirely aside from the merits of the motion. The question of reissue has been disposed of by the Commissioner in his decision dated December 3rd, 1915. This ruling of the Commissioner applies equally as well to a proposed disclaimer. What kind of a disclaimer would be applicable to these circumstances and whether or not the case is one for disclaimer under the law, or whether in fact a disclaimer in one of two patents conflicting in being for the same invention would operate to make the other valid, and whether or not any actual disclaimer has been filed or will be filed, are matters upon which the Patent Office is not called upon to pass at this stage of the case or under the status of the record as now presented. What the applicant may choose to do lies wholly within his own mind and is subject wholly to future action on his behalf.

It is self-evident that in any event the present is not a case for resort to the use of a disclaimer for the reason that the matter of the patent and application are inseparable as patentable matters and disclaimers are only permissible under the Statute and the patent law in cases where the matter disclaimed is a distinct and separable part of the matter claimed. A mere statement of function certainly cannot be disclaimed nor is it the office of a disclaimer to vary the words of a claim to make that which is generic specific, or to make that which is specific generic, nor can there be found any case, we believe, in which it has been held that a disclaimer may be resorted to for the purpose of eliminating from a claim the intended and only practical use of the invention set forth or proposed or suggested by the patentee in the manner found in the present case.

IN CONCLUSION, FERRANTI HAS BY HIS PATENT OBTAINED A MONOPOLY FOR A PROCESS APPLIED TO TURBINE MANUFACTURE INCLUDING THE PROCESS DISCLOSED BY FIGS. 1 AND 2 THEREOF; HE NOW AT-

TEMPTS TO COVER, IN THE APPLICATION, THE PROCESS OF FIGS. 1 AND 2 APPLIED BROADLY TO ANY APPLICATIONS OR USES OF IT AND THEREBY, IF SUCCESSFUL IN THIS ATTEMPT, HE WOULD BE EXTENDING THE LIFE OF THE MONOPOLY GRANTED BY THE PATENT ALREADY ISSUED AND WOULD BE RECEIVING TWO PATENTS FOR THE SAME INVENTION.

It is respectfully submitted and urged that this interference should be dissolved upon the law and the facts disclosed above.

Respectfully,

TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, January 4th 1916.

36,709—50

Hearing :
Jan. 5, 1916.

MCV

IN THE UNITED STATES PATENT OFFICE.

PATENT INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

MOTION FOR DISSOLUTION.

ELECTRIC WELDING.

Application of Sebastian Ziani de Ferranti filed Dec. 29, 1911,
Ser. No. 668,464, division of application No. 208,034, filed
May 14, 1904.

Patent granted Johann Harmatta Dec. 3, 1912, No. 1,046,066, on
application filed Dec. 3, 1903, No. 183,677.

Messrs. Spear, Middleton, Donaldson & Spear for de Ferranti.
Messrs. Townsend & Decker for Harmatta.

The party Harmatta moves for a dissolution of the interference on the ground that the grant to the party de Ferranti on July 27, 1915, of patent No. 1,148,221 for Process of Electrically Welding Turbine Blades constitutes a bar to the grant to de Ferranti of a patent containing the claims which constitute the issue of this interference. In other words, it is contended by Harmatta that if a patent were granted to de Ferranti containing the claims of the interference issue it would be double patenting of the invention covered by de Ferranti's patent No. 1,148,221.

The interference issue is:

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce as isolated spot or spots of union, leaving distinct or well defined areas in which the pieces are not welded together.

The claims of the de Ferranti patent are:

1. The method of attaching turbine blades to their carrier of relatively great mass which consists in adjusting the heat capacity of the localized area of the carrier at the point of attachment by partially isolating these areas from the remainder of the carrier so that a welding temperature may be reached notwithstanding the cooling effect of the mass of the carrier, and passing a uniform electric heating current directly through the carrier and by way of the clamps through the blades to weld the blades in succession to the carrier, substantially as described.

2. The method of attaching turbine blades to their rotor carrying elements one by one, consisting in equalizing the heat capacity of the welding parts by limiting the conducting areas of the carrier at the points of blade attachment symmetrically in relation to the axis of rotation of the rotor, and inclosing the blades between clamps so that on heating locally by a uniform electric current, the blades and carrier rise to approximately the same temperature on welding the blades to the carrier so prepared, substantially as described.

3. Process for the attachment of turbine blades to their carriers consisting in partially isolating those portions of the carrier in the neighborhood of the points of attachment of the blades, to limit

the cross-sectional area available for the conduction of heat therefrom; artificially increasing the volume of the blades by contacting them with metal masses of high heat conductive capacity and finally welding together the carriers and blades so prepared.

4. Process for the attachment of turbine blades to their carriers, consisting in forming circumferential grooves with intervening rings of metal around the carrier thereby limiting the cross sectional area available for the conduction of heat from the point of attachment so that on heating locally, said blade and said carrier rise to approximately the same temperature and welding each blade to a plurality of said rings, as set forth.

5. The method herein described of constructing a turbine wheel, ring or drum, the same consisting first in forming said wheel symmetrically in relation to its center of rotation with the parts next to the welding points reduced to properly conform to the volume of the blades and electrically welding said blades at the said points whereby the symmetry of the wheel is maintained.

The invention forming the bases of this interference is a process of electric welding, the characteristic feature of which is the welding together of two pieces of metal at spots only of the contacting surfaces by heat and pressure localized at the spots at which the welding is to take place. There is no limitation in any of the counts as to the instrumentalities employed in carrying out the process, neither is there any limitation in the counts as to the character of the pieces of metal to be welded together. In the drawing of the de Ferranti application involved in interference there are two figures, Figure 1 being described as showing a turbine bladed element, having the blades welded thereto and Figure 2 as a part side elevation of the bladed element shown in Figure 1. There is no disclosure in either of the figures of the means for producing pressure or of the means for electrically heating the pieces of metal to be electrically spot welded together. The specification of the de Ferranti application is equally silent as to the specific steps or means employed in subjecting the parts to be welded together to heat and pressure. After describing the manner in which a series of projections are formed on the surface of the wheel to which the blades are to be welded, the specification of the application proceeds to state:

The blade *d*, is welded to certain of the projections, *f*, by passing across the points of contact of the opposing surfaces, an electric current in a known manner.

The application involved in interference is a division of the de Ferranti application which matured into patent No. 1,148,221. The drawing of the patent contains seventeen figures including the figures of the application drawing. The drawing of the patent illustrates various modifications directed to securing proper welding temperatures of the turbine wheel and blades and also shows an

apparatus by which the steps of the process claimed may be carried out.

The claims of the de Ferranti patent each contain limitations which are not readable upon either drawing or specification of the de Ferranti application. Thus claim 1 calls for "passing a uniform electric heating current directly through the carrier and by way of the clamps through the blades to weld the blades in succession to the carrier." There is no disclosure whatever in the de Ferranti application of clamps for the blades to be welded to the carrier.

Claim 2 of the patent specifies, "enclosing the blades between clamps so that on heating locally by a uniform electric current, the blades and carrier rise to approximately the same temperature on welding the blades to the carrier so prepared." What was said with respect to the use of clamps in connection with claim 1 also applies to claim 2.

Claim 3 states, "artificially increasing the volume of the blades by contacting them with metal masses of high heat conductive capacity." This refers to the special character of the clamps and is described in lines 38 to 42, inclusive, page 2 of the printed specification. As has heretofore been stated, there are no clamps of any kind disclosed in the application involved in interference.

Claim 4 of the patent is limited to a special form of carrier to which the turbine blades are to be attached, i. e., one having circumferential grooves with intervening rings of metal. No such carrier is disclosed in the de Ferranti application.

Claim 5 of the patent calls for a method of constructing a turbine wheel which includes among other things, "forming the wheel symmetrically in relation to its center of rotation * * * whereby the symmetry of the wheel is maintained." There is no disclosure in the de Ferranti application of any step such as that noted with respect to claim 5.

It seems clear to the law examiner that not only are the claims of the de Ferranti patent limited to matter not disclosed in the application but the claims of the application involved in interference recite methods which can be carried out without employing the steps of the method claims of the patent. This is evidenced not only by the disclosure of the de Ferranti application but by the disclosure of the Harmatta patent which fails to respond to the limitations in the de Ferranti patent claims to which reference has been made above.

The brief filed by Harmatta does not discuss the specific limitations in the claims of the de Ferranti patent to which reference has been made herein but states generally that the inclusion of unpatentable limitations in the claims of a patent will not avoid the bar of double patenting. It need only be said on this point that nothing has been presented here to show that the limitations in the claims of the patent, to which reference has been made, are immaterial or unpatentable, even if the law examiner had authority to pass on that question.

1601

Considerable weight is attached by the moving party in his brief to the fact that Figures 1 and 2 of the de Ferranti patent correspond to the Figures of the application drawing. The figures in question, taken either alone or in connection with the description of the figures in application or patent, do not support the language or the substance of the claims of the patent.

It does not appear to be material to the question of double patenting that the claims involved in interference are broader than the claims of the de Ferranti patent and that such broader claims are contained in a later filed divisional application. *Welsbach Light Co. v. Cohn*, Fed. Rep. 181, 123.

The motion for dissolution is denied.

January 19, 1916.

E. S. HENRY,
Law Examiner.

EEG

36,709. Letter No. 51.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON.

January 20, 1916.

IN THE MATTER OF THE INTERFERENCE OF

DE FERRANTI

v/s.

HARMATTA.

INTERFERENCE No. 36,709.

MOTION FOR DISSOLUTION.

SIR:

Please find enclosed herewith a copy of a decision of the Law Examiner in the above entitled case.

Very respectfully,

W. F. WOOLWARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.
Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York City.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

IAW

2—224

January 22, 1916.
Mailed " " "
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6—1652

The law examiner having denied Harmatta's motion for dissolution filed October 28, 1915, proceedings herein are resumed, and the times for taking testimony and for final hearing are reset as follows:

Testimony in chief of De Ferranti to close March 22, 1916.

Testimony of Harmatta to close April 22, 1916.

Rebuttal testimony of De Ferranti to close May 8, 1916.

Final hearing: July 11, 1916, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
Jan. 26, 1916.
U. S. Patent Office.

Intf. No. 36709, Paper No. 54.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

PETITION TO THE HONORABLE COMMISSIONER OF PATENTS
IN PERSON.

Now comes Johann Harmatta, by his attorneys, and respectfully petitions your Honor to exercise your supervisory powers and review the decision of the Law Examiner rendered January 19th 1916, denying your petitioner's motion for dissolution of this interference. The motion for dissolution, in brief, is that de Ferranti has no right to make the interference claims for the reason that to issue such claims to him in his application involved in the interference would be double patenting of the invention covered by de Ferranti's prior patent No. 1,148,221.

It is contended that the Law Examiner is clearly in error in his conclusion as to what constitutes double patenting under the law as laid down in the numerous authorities cited by your petitioner in his brief already filed.

The Law Examiner has not finally determined the question by his decision for the reason that the decision turns on the point that he has no information that the limitations in the claims of the patent are immaterial or unpatentable. This was discussed and urged in the oral argument and the Law Examiner should take judicial notice of knowledge which is in the possession of the Examiners of the Patent Office; in other words we ask for a review of the Law Examiner's decision upon the ground that in refusing to take note of the state of the art in respect to elementary details of processes of electric welding as known to the officials of the Patent Office and as urged orally at the hearing, his decision is not and cannot be fully decisive of the question raised by Harmatta's motion.

Further, the Law Examiner by his decision has completely overlooked the provisions of Rule 106 which was raised in your petitioner's brief,

tive decision as to the right of a party to make the claims or as to the patentability of claims. I do not find that the circumstances of this case justify the exercise of my supervisory authority to review the decision of the law examiner.

The petition is denied.

January 28, 1916.

By direction of the Commissioner:

THOMAS EWING,
Commissioner.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

Johann Harmatta,
c/o Townsend & Decker,
149 Broadway,
New York City.

Docket Clerk.

36,709—57.

Apr. 15, 1916.

U. S. Patent Office.

Testimony for

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

(batch 1)

HARMATTA.

New York, N. Y., March 20th, 1916.

Messrs. Spear, Middleton, Donaldson & Spear,
Victor Building,
Washington, D. C.

GENTLEMEN:

PLEASE TAKE NOTICE that on Tuesday, March 28th, 1916, beginning at 11 a. m., at the office of Townsend & Decker, 149

Broadway, New York, before George E. Brown, Notary Public in and for the County of New York or some other duly authorized officer, the party Harmatta will proceed to take the depositions of the following witnesses in his belief in the above interference:

Hermann Lemp of Erie, Pa.;

James H. Gravell of Philadelphia, Pa. ;
and possibly others. The examination will continue from time to time until completed and you are invited to attend and cross-examine.

TOWNSEND & DECKER,
Attorneys for Harmatta.

Due service of the above notice admitted this 22nd day of March 1916.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

New York, N. Y., March 28th, 1916.

Testimony taken on behalf of Harmatta pursuant to the annexed notice at the office of Townsend & Decker, 149 Broadway, beginning at 11 A. M., March 28, 1916.

Present: MR. H. C. TOWNSEND for Harmatta.
MR. WILLIAM F. HALL for de Ferranti.

HERMANN LEMP, being duly sworn, deposes and says as follows in answers to interrogations by MR. TOWNSEND:

Question 1. What is your name, age, residence and occupation?

Answer. Hermann Lemp, 53, Engineer of the Erie Works General Electric Company, Erie, Pa.

Q. 2. Have you had any practical knowledge and experience in the art of electric welding?

A. Yes, I was chief engineer of the Thomson Electric Welding Company for seven years.

Q. 3. Will you please state fully the nature and extent of your knowledge and experience in the art?

A. From 1888 until 1895 I was in full charge of the Commercial development of electric welding apparatus and accessories for the utilization of the Thomson Electric Welding process and therefore thoroughly acquainted with the early history and practices followed in the art of welding and the means employed for applying them in the art.

Q. 4. Since the date last mentioned have you kept yourself informed in a general way as to the progress of that art?

A. I naturally have in a general way but my time having been fully occupied with my own work, I have not followed it in detail.

Q. 5. I call your attention to a copy of the provisional specification of de Ferranti filed in connection with proceedings for obtaining the British patent No. 11921 of 1903 unaccompanied by drawings, a certified copy of which provisional specification is on file in the United States Patent Office as a part of a stipulation entered into between the parties in this interference on or about the 14th day of May 1915 and acknowledged by the Office Letter dated May 18th 1915 and will ask you whether you have read and considered the description forming that provisional specification wholly apart from the complete specification and any drawings accompanying the latter, and whether you believe that you understand that description in the provisional specification so far as it goes?

A. Yes, I have.

Q. 6. Will you please state from the standpoint of one having a practical knowledge and experience of the art of electric welding as it existed at the date of filing of that provisional description in the British Patent Office, to wit: May 25th 1903, your understanding of the invention purporting to be described in that specification and as disclosed thereby alone and apart from the complete specification and any drawings accompanying the latter?

(By Mr. Hall: Objected to as incompetent and inadmissible as an effort to adduce expert testimony regarding the disclosure in the provisional specification without leave of the Examiner of Interferences.)

A. The provisional specification describes to me a method of shaping or modifying the surface of a mass greater than that to which a smaller mass is to be welded in such a way as to produce equal heating of the two parts to be welded and which method is so entirely the usual one followed by us in everyday welding operations, as thoroughly explained in the literature of the early days of the art, that it does not disclose to me anything novel. It is merely the application of wellknown principles to a specific case numbers of which have been brought to our attention times and times again and were met in similar matters as described in the provisional specification of de Ferranti. When two pieces of metal had to be welded together by the Thomson process one of which was of a larger

Defendant's Exhibit No. 33.

section than the other, the usual procedure was and still is to decrease the section of the larger piece at the point where it was to be welded to the smaller piece either by cutting away part of the metal or by forging or forming projecting tits of a section as near as possible to the smaller part to be welded thereto. Sometimes these projections were cast on, in other cases they were produced by removing metal just as the special condition of the work would demand it. This method of procedure was always necessary for the purpose of creating an equal production of heat on both parts to be welded by making the resistance of the metal through which the heating current flows as nearly as possible alike and conversely of preventing the carrying off of heat from the abutments to be welded in as equal a manner as possible.

(By Mr. Hall: In addition to the objection made to the question all of the answer commencing with the words "and which method," line 5, is objected to as stating a mere conclusion, as secondary evidence and as irrelevant, immaterial and inadmissible in respect to the practice followed in the Thomson process since it endeavors to introduce a question of the practice which has been followed in the art. This is immaterial to the issues in this case, and cannot be introduced in this manner or without special leave of the Examiner of Interferences or Commissioner of Patents.)

Q. 7. Will you please mention some of the early literature that you have in mind as referring to the shaping or modifying the surface, as mentioned by you, and compare what is set out in the instances you may refer to with what you understand to be the manners of shaping or modifying the surface to which de Ferranti refers in the provisional description?

(By Mr. Hall: The objections made to the last answer and question are repeated. The question is also objected to as calling for incompetent and inadmissible evidence since it seeks to bring into the case the prior art.)

A. I refer to the original Thomson patent No. 347,141 in which, in Fig. 8, it is shown how the blade of a knife is chamfered to meet the diameter of the handle. Again, to one of the earliest publications by Prof. Elihu Thomson on the art of electric welding, as given in the *Electrical World* of December 25th 1886. I refer with particular attention to paragraph on page 399 which I herewith quote:

"When the pieces are of the same metal and of the same size or section, the junction is made by placing the ends of the pieces abutted midway between the clamps before applying the pressure to force them together and the current to weld them

But when they are of different metals or of different sections, the abutment or meeting point is placed nearer the clamp carrying the most resisting metal; or, the piece of smaller section, or the metal most readily fused, as the case may be, is so placed so as to project least, for the purpose of favoring the accumulation of heat in the other piece.

"In joining pieces of different diameters the end of the large piece is reduced to the size of the smaller before attempting to effect the weld."

I also refer to patent 396,010 of Jan. 8th 1889, Fig. 9, described on second page 2:

"This knob or protuberance may be utilized in a variety of ways—as, for example, a lateral bar may be welded to the knob by my electric-welding process, which forms the subject of prior application; or, the lateral projections b, Fig. 10, having been formed at a distance from the end of a bar, the end may be bent to shape, as shown in Fig. 11, and finally welded electrically as a ring, as shown in Fig. 12, thus forming a loop on the end of the bar."

Also to patent No. 434,530, of August 19th, 1890, Fig. 10; and patent 487,302, December 6th, 1892, Fig. 4, described on second page lines 90 to 110. Also to article in the "Iron Age" of January 28th, 1892, particularly referring to Figs. 23, 25, on page 151; Figs. 52, 56 and 57 on page 153; and Figs. 76 and 78 on page 155.

In the various references made in all cases it is pointed out that the sections of the parts to be welded electrically together should be modified so as to be as nearly equal as possible to produce equal heating. Sometimes only two welding surfaces are brought together; at other times there are at the same time four welding surfaces brought together or more. In most cases the larger surfaces are reduced in size to the smaller by forging methods. In the case of Fig. 76 metal is removed and in Fig. 95, page 157 of the "Iron Age" article, the parts to be welded are cast in a mold to give the proper section.

In this Ferranti specification there is stated that

"In carrying out my invention according to one modification grooves may be cut across the edge of the ring"

and again, at another place, it is stated:

"Again, the ring may be built up of a set of thin laminae, the edges of which are notched, the laminae being assembled in such a way that the notches are 'stepped' with regard to each other, the intervening projections of metal thus following the shape of the turbine blades to be welded to them."

In the first of these modifications a machine formed surface is produced substantially of the section of the turbine blade to be welded thereto; in the second cited modification a similar section is produced from built-up laminated disks both of which are in substance like the weld produced in Fig. 9, patent 396,010 cited before, the difference being that in the patent the tits are forged and raised from the surface while in the Ferranti description the tits are produced by cutting away the solid metal.

In Fig. 76, page 155, "Iron Age" article, the bottom piece of a projectile is hollowed out and its circular section made to conform to that of the central body for the purpose of equalizing the heat at the weld.

The references given all clearly establish the fact that it was well understood that in order to electrically weld surfaces of unequal section together and produce a strong weld, the surfaces had to be shaped either by cutting away or by adding projections to bring about as near as possible equal heat at the point of weld.

(Attorney for Harmatta gives notice that he will refer at the final hearing to the publications and patents mentioned by the witness and as found in the records of the Patent Office.)

Q. 8. Referring to the statement of the description that according to one modification grooves may be cut across the edge of the ring, to what extent would the surface of the blade be welded to the carrier by following the procedure there referred to of modifying the surface as you understand it and in view of the statement of the inventor that the object to be kept in mind in the various modifications is to enable the temperature to rise to the welding point while at the same time leaving sufficient areas untouched to insure mechanical strength in the welding joint?

A. The object in any weld is to have as large a welded surface as possible to insure a strong mechanical joint. The inventor had evidently this feature in mind; and considers that modification the best which would insure a weld extending over the whole surface of the turbine blade. In both of the modifications cited by me and particularly the one referred to in this question, a solid weld including the whole area of the blade would be produced.

Q. 9. Referring to the statement of the specification

"Again intersecting sets of grooves inclined to one another may be cut on the edge of the ring,"

what does the description disclose to you as one skilled in the art at date of the filing of the provisional and speaking from the standpoint of your knowledge of the art of electric welding as to the width and number of the intersecting grooves?

(By Mr. Hall: Objection following Q. 6 is repeated.)

A. It would tell me that in order to secure the strongest weld the grooves cut into the surface of the ring would be made as narrow and as deep as possible to produce the proper heat and to maintain the continuity of the weld over as large a surface as possible.

Adjourned to 2 p. m.

Examination Continued:

Q. 10. Might or might not the weld resulting from the modification of the metal of the carrier in the manner referred to in your last answer involve practically the whole surface of the blade presented to the carrier?

(By Mr. Hall: Same objection.)

A. Yes, it might and the more it does the nearer it will comply with the conditions laid down by de Farranti to insure the greatest mechanical strength at the welded joint. The method of welding the blades on to the carrier is of course nothing more than the well known butt welding process known as the Thomson process in which the parts to be united, when brought to the welding heat, are pressed together and from this result an expansion of metal at the weld usually known as the burr which, in the particular modification described by Ferranti, would, in the final part of the operation, close up the gaps made by the slots or grooves and produce substantially one uniform welded surface between the carrier and the blade.

Direct examination closed.

Cross-examination without waiving objections made on the direct:

X-Q. 1. Is the Thomson Electric Welding Company a branch of or controlled by the General Electric Company?

A. If it is, it is news to me. I never heard such to be the case.

X-Q. 2. Where is the main office of the Thomson Electric Welding Company?

A. Lynn, Mass.

X-Q. 3. Do you know whether Mr. Elihu Thomson is associated with this company?

A. I believe he is a director in it and a stockholder.

X-Q. 4. Is Mr. Elihu Thomson associated with the Lynn works of the General Electric Company?

A. Yes, he is consulting engineer.

X-Q. 5. For many years he's had his office in the Lynn works of the General Electric Company, has he not?

A. Yes.

X-Q. 6. Referring to the so-called modifications stated in Q. 8, is it your understanding that the gaps made by the slots or grooves

would not be closed until the end or very near the end of the welding operation?

A. In the modification referred to, it is immaterial whether the slots are wide or not because the ridge formed by the cutting of the slots is evidently of about the same section as the blade to be welded thereto and in the upsetting part of the process the weld being enlarged may or may not come in contact with the metal on the other side of the slot on the carrier. The weld will be substantially a butt weld extending over the whole surface of the blade

(By Mr. Hall: The entire answer objected to as a mere volunteered statement in no wise responsive to the question.)

X-Q. 7. Now in answer to Q. 10 you said: * * * "an expansion of metal at the weld usually known as the burr which, in the particular modification described by Ferranti, would, in the final part of the operation, close up the gap made by the slots or grooves * * *." I ask you whether the closing of the gap would occur only at the close or near the close of the welding operation?

A. Before answering this question I want to draw attention of counsel for de Ferranti to the fact that my reply just quoted by him is in answer to a different modification than the one referred to in his previous question. With this understanding I will answer that in the modification referred to in Qs. 9 and 10 the closing up of the slot would take place during the last part of the welding operation when the metal is being upset by pressing the blade towards the carrier.

X-Q. 8. Is it your understanding that during the first part of the operation the carrier would contact with the opposed surface of the blade only at separated points on this surface?

A. It would in case of modification referred to in Qs. 9 and 10 but not in case of modifications referred to me in my reply to Q. 7.

X-Q. 9. And referring only to the modification referred to in Qs. 9 and 10, would the heating current during the first part of the operation be localized at these separated points?

A. It would be localized to exactly the contact surfaces which are being made at the beginning between the surfaces of the carrier in contact with the blade.

X-Q. 10. And referring to the modification of Qs. 9 and 10, is it your understanding that the carrier is provided peripherally with spaced apart tits or projections which contact at separated points with the opposed surface of the blade?

A. It is, but with the understanding stated by de Ferranti that these should be as numerous and as close together as possible consistent with producing the proper heating effect in order to obtain as large a welded surface of the blade to the carrier as possible.

Cross-examination closed.

(Counsel for Harmatta gives notice that at the final hearing he will refer to the following: Copy of provisional specifica-

tion of de Ferranti filed May 25th, 1903, No. 11,921, as found in the record of British patents in the Patent Office Library at Washington. De Ferranti's British patents Nos. 15,186 of 1903 and 11,921 of 1903. De Ferranti's United States patent No. 874,398, dated December 24th, 1907; 911,222, dated February 2nd, 1909; No. 1,148,221, dated July 27th, 1915. United States patent of Kleinschmidt, No. 616,437, dated December 20th, 1898. United States patent to Cowdery, No. 481,663, dated August 30th, 1892. File wrapper and contents of de Ferranti's United States applications Serial Nos. 208,034 and 668,464.)

(Counsel for Harmatta will also urge at the final hearing all the grounds of his motion to dissolve filed May 4th, 1914, and October 28th, 1915.)

HERMANN LEMP.

Examination closed.

Adjourned subject to notice.

NOTARY'S CERTIFICATE.

In re Interference:

DE FERRANTI

v/s.

HARMATTA.

No. 36,709.

County of New York, State of New York, ss:

I, George E. Brown, a notary public within and for the County and State of New York, do hereby certify that the foregoing deposition of Hermann Lemp was taken on behalf of Johann Harmatta in pursuance of the notice hereto annexed before me at the office of Townsend & Decker, 149 Broadway, New York City, State of New York, on the 28th day of March, 1916; that said witness was by me duly sworn before the commencement of his testimony; that the testimony of said witness was written out by Miss Irene Lefkowitz in my presence; that the opposing party, Sebastian Ziani de Ferranti, was represented by counsel during the taking of said testimony; that the deposition was read by the witness before the witness signed the same; that I am not connected by blood or marriage with either of said parties nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed

my seal of office at New York City, County of New York, this 28th day of March, 1916.

(Seal)

GEORGE E. BROWN.

Notary Public—Richmond County Certificate Filed in New York County, No. 179; New York Register No. 7223. Term Expires March 30, 1917.

Docket Clerk.

36,709—57.

Apr. 15, 1916.

U. S. Patent Office.

UNITED STATES PATENT OFFICE,

Testimony for Harmatta. (Batch 2.)

In re Interference:

DE FERRANTI

v/s.

HARMATTA.

No. 36,709.

New York, N. Y., April 8th, 1916.

Messrs. Spear, Middleton, Donaldson & Spear.

Victor Building.

Washington, D. C.

Gentlemen:

PLEASE TAKE NOTICE that on Thursday, April 13th, 1916, beginning at 11 a. m., at the office of Townsend & Decker, 149 Broadway, New York, before George E. Brown, Notary Public in and for the County of New York or some other duly authorized officer, the party Harmatta will proceed to take the deposition of the following witness in his behalf in the above interference:

JAMES H. GRAVELL of Philadelphia Pa.;

and possibly others. The examination will continue from time to time until completed and you are invited to attend and cross-examine.

TOWNSEND & DECKER,

Attorney for Harmatta.

Due service of the above notice admitted this 10th day of April, 1916.

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for Harmatta.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

New York, N. Y., April 13th, 1916.

Testimony taken on behalf of Harmatta pursuant to the annexed notice at the office of Townsend & Decker, 149 Broadway, beginning at 11 A. M., April 13th 1916.

Present: Mr H. C. TOWNSEND for Harmatta.

MR. WILLIAM F. HALL for de Ferranti.

JAMES H. GRAVELL.

JAMES H. GRAVELL, being duly sworn, deposes and says as follows in answers to interrogatories by Mr. Townsend:

Question 1. What is your name, age, residence and occupation?

Answer. My name is James Hardev Gravel; age 35; and business address is 1126 So. 11th Street, Philadelphia; occupation electrical engineer.

Q. 2. Have you any knowledge of or experience in the electric welding art and if yes, will you please state the nature and extent of it?

A. Upon my graduation from the Philadelphia High School I became associated with the Ellwood Ivins Tube Co., Oaklane, Philadelphia, where I had charge of experiments in electric welding. In 1900 I took up the work of experimenting in electric welding for the American Tube & Stamping Co., of Bridgeport, Connecticut, where I designed and built several special butt-welding machines and a machine for welding tubing. Since that time I have been connected with the Baldwin Locomotive Works of Philadelphia, the Philadelphia Electric Co. and the Hale & Kilburn Co., of Philadelphia, serving all in the capacity of an electrical expert. During my career I have obtained quite a number of United States patents on welding.

Q. 3. Have you made any study or investigation of the history and development of the art of electric welding prior to 1903? If yes, please state the nature and extent of it.

A. At the year 1903 I had been engaged in electric welding for practically five years. I was specially familiar with welding as disclosed by the United States patents, having started an index on pat-

ents in the year of 1900 and was very careful to keep my index up to date.

(By Mr. Hall: Objected to for the most part as a mere conclusion and as secondary evidence.)

Q. 4. Are you familiar with the art of electric welding from the time of its origin to such extent as in your opinion to qualify you to testify from the standpoint of one ordinarily skilled in the art as it existed at the date May 25, 1903, when de Ferranti, party to this interference, filed his provisional specification unaccompanied by drawings in connection with proceedings for obtaining his British patent No. 11,921 of 1903?

(By Mr. Hall: Objected to as for calling for a mere conclusion.)

A. Having been connected with the industry for approximately five years at the time you state, namely May 25, 1903, both from a practical and engineering standpoint, I believe I am duly qualified to testify.

Q. 5. Have you read and considered the description forming the provisional specification filed by de Ferranti in connection with his application for his British patent No. 11,921 of 1903 and do you believe that you understand that description so far as it goes when taken apart from any drawings that may have been filed later by him in connection with his complete specification?

A. I have read the application carefully and believe I thoroughly understand it.

Q. 6. Referring to the first paragraph of the description forming that specification in which de Ferranti alludes to the difficulties which have been experienced in electric welding, will you please state how one skilled in the art at the time of the filing of that specification would understand that statement and particularly as to the nature of the difficulties and the particular kind of electric welding referred to? In giving your answer you may state what measures had been usually adopted in the art up to that time to overcome such difficulties.

(By Mr. Hall: Any and all testimony which the witness may give respecting prior art, structures or devices, is objected to upon the ground that it is incompetent, irrelevant and immaterial. It is so objectionable because permission has not been obtained for taking testimony in respect to such prior art structures, or has any motion been brought under rule 122 of the Rules of Practice directed to the non-patentability of the issue by reason of the prior art.)

A. At the time of Ferranti's application the only method of electric welding in which trouble had been experienced, when weld-

ing together two parts that differed greatly as regarding their thermal characteristics when heated at their point of juncture was what was known as the Thomson method. This difficulty is disclosed by Thomson in his original patent on electric welding in which he coins the term "electric welding." This patent is number 347,140. It is quite evident from the first paragraph in Ferranti's application that it was this difficulty disclosed by Thomson that Ferranti refers to. The heat in this system of welding depends on the thermal and electrical characteristics of the two bodies being welded. When one or the other of these characteristics differ greatly in the two bodies, unequal heating ensues, which results in either no weld or a defective weld. This was well recognized in the art prior to Ferranti's application and numerous methods had been proposed for eliminating this trouble. Many of these methods are disclosed by United States patents issued prior to Ferranti's application, namely:

347,140

347,141

396,010

434,530

487,302.

All these patents refer broadly in adjusting the volume of the metal in one part to that of the other part so that the thermal and electrical characteristics in the two bodies will be practically equal. In some cases, when welding a piece of large section to a small section, the larger section was reduced by forging or turning so that the section presented at the weld would be practically equal to that piece of the smaller section. In some cases the same result was obtained by holding the smaller piece close up to the weld in the copper clamp naturally a part of this process, so that it would keep the smaller piece which naturally attained a higher temperature than the larger piece, cool. When the larger piece was of such shape and size as to make it feasible, a lug or projection was provided by stamping or forging so as to present at the weld a section corresponding to that of the smaller piece. The difficulties that Ferranti refers to were well known to all skilled in the art at the time of Ferranti's application.

Q. 7. Will you please state more specifically what characteristics you refer to by the term "thermal characteristics" by explaining what would affect this characteristic and its relation to the operation of securing a proper heating of the metal to be welded.

A. Thermal characteristics are the properties of a substance relative to heat. The thermal characteristics which are considered in welding, as referred to by Ferranti, relate to the conduction of heat by the metal. The conduction of the heat by the metal depends on the cross-section of the path of escape of heat and on the nature of the metal. In Ferranti's case where he presents the end of a concave rod forming a blade to a disk which is relatively much larger than the blade, the periphery of which presents practically a

flat surface to which the end of the blade is to be welded, the thermal characteristics differ greatly because the escape of heat in the blade is restricted to a small path corresponding to the cross-section of the blade, whereas in the disk it is not restricted to a small path but quickly conducted through the whole disk. This would have a tendency to keep the disk cool because the heat generated in the disk by the current would be permitted to escape nearly as quickly as it was generated. This is said by Ferranti in his second paragraph only in slightly different words.

Q. 8. Will you please extend your answer to my last question by extending it to the prior art as it existed and was practiced prior to 1903?

(By Mr. Hall: Objection following Q. 6 is repeated.)

A. These thermal characteristics were well recognized prior to Ferranti's application as is illustrated in the patents already cited, which show that the thermal characteristics of the larger piece were altered by adjusting the volume of metal of the larger piece in the neighborhood of the welding point so that they would practically coincide with the thermal characteristics of the smaller piece, thereby producing equal heating in both bodies.

Q. 9. Assuming that one skilled in the art at the date of filing the de Ferranti provisional and as it existed at that date should proceed in the light of the art and of the de Ferranti provisional specification, taken apart from any drawings that may have been filed later in connection with the application for patent, to adjust the volume metal of the disk by forming intersecting sets of grooves inclined to one another, how would he proceed, in your opinion, in making said grooves as respects their spacing, width and depth? In giving your answer please state as fully as you can your reasons for any opinion you may express.

A. As Ferranti tells us in his specification that the object to be kept in mind is to insure a good weld and that only sufficient metal for this purpose, is to be removed, one skilled in the art at the time of Ferranti's application would, having this in mind, try to make the thermal characteristics of the two bodies as nearly equal as possible and would make very narrow grooves and of a depth practically equal to the distance between the copper clamp and the end of the blade. By making a number of thin grooves he would be enabled to restrict the path of the escaping heat to practically that of the path provided in the blade, thereby causing equal heating in the two bodies. By this method of procedure he would have adjusted the volume of the metal in the disk in the neighborhood of the welding point so that approximately equal heating would occur in both the end of the blade and the peripheral face of the disk in contact with the end of the blade.

Q. 10. Would the decreasing of the number of grooves affect what you call the thermal characteristics and if so, in what way?

A. The decreasing of the number of grooves, assuming the size of the grooves to remain the same, would tend to enlarge the cross-section of the path in the disk, thereby allowing a greater escape of heat from the welding point with a consequent cooling of that point, or, in other words, by reducing the number of grooves has the effect of cooling the disk at the welding point.

Q. 11. Assuming that one skilled in the art had proceeded to prepare the disk in the manner stated in your answer to Q. 9, and had then proceeded to weld the blade to the disk or drum will you please state to what extent the edge of the blade would be involved in the weld? In giving your answer state how any result that you may specify would be brought about.

A. The blade would be brought in contact with the disk, the current would be passed from the blade to the disk, all the projections coming in contact with the blade formed by the cuts in the disk would become heated, the edge (by edge I understand it to mean the end of the blade) of the blade would become heated, pressure would be exerted between the two bodies, and upset would occur causing the projecting portions of the disk to mushroom or spread out, forming an arch construction from one projection to the other, resulting in a continuous surface under the blade to which the entire surface of the end of the blade would weld.

After recess:

Q. 12. Is there any other consideration that occurs to you that would guide one proceeding it cut the groove as suggested in the Ferranti specification in respect to the width of the grooves or the spaces between them?

A. As Ferranti says nothing about placing his blades in respect to the position of the grooves (and in fact when the invention is carried out by boring holes into the peripheral surface of the disk he says that the blades may be welded or arranged without particular reference to the position of the holes) it is quite necessary to have the grooves thin and quite numerous in order to make a like condition of the surface under each blade respectively; for otherwise, if the grooves are placed far apart, even if arranged regularly, it would require great care in placing the blades so that the same condition of surface would be presented to each blade respectively. This is especially true if the grooves are of any substantial width. As Ferranti does not caution us to be particular to place his blades according to the pattern produced by his groove, it naturally follows, in order to have the welding conditions the same at each blade respectively, that the grooves must be narrow and numerous, for it is only by this method that uniform results can be obtained. In a steam turbine it is essential that all the blades be equally spaced. Therefore, had Ferranti used any other style of groove except the kind which are narrow and close together, he would have been sure to tell us that these grooves would have to

be laid out according to a certain pattern so that a like condition of surface would occur under each blade respectively.

Q. 13. Have you ever had any actual practical experience in performing the operation of butt-welding by the Thomson Electric Welding process?

A. My duties at the American Tube & Stamping Co. of Bridgeport, Connecticut, in the years 1900 and 1901, required me to design butt-welders, to assemble the butt-welders and to actually operate the butt-welders which I had designed. It required my instructions as to how prepare the work which was to be welded and how to eliminate the burr which was formed in welding to produce the finished article. In some cases where a large section was to be welded to a small section to so adjust the volume in the large section so that it would not produce a cooling effect on the weld. My duties at this company required a knowledge of the hardening and softening properties in steel as applied to welding. It also required a knowledge of the chemistry of steel so that its welding properties could be determined beforehand. My duties at the Hale & Kilburn Co. of Philadelphia, required additional knowledge and a more expert manipulation of the welding machine, for at these works I was continuously confronted with new problems which were produced by the development of the steel interior finish of railway cars and of the all-steel construction of automobile bodies. At this company I was called on not only to design, construct and operate butt-welding machines, but was required to invent new processes, new apparatus and new products of manufacture as disclosed by my patents in the United States Patent Office. At one period of my career at the Hale & Kilburn Co. much of the welding consisted in welding a large section to a small section in which case I was obliged to adjust the volume of the metal of the large section so as to produce proper heating effects at the weld.

Direct examination closed.

Cross-examination without waiving objections made on the direct examination:

X-Q. 1. By whom are you now employed?

A. I have an engineering practice at 1126 So. 11th Street, Philadelphia. I am treasurer of the American Chemical Paint Co. of Philadelphia, and secretary of the Tilghman-Brooksbank Sandblast Co., all located at the same address.

X-Q. 2. It is your notion that you are testifying in this case as an expert?

A. It is.

X-Q. 3. Were you employed to testify in this case as an expert?

A. I was.

X-Q. 4. By whom?

A. By the Thomson Electric Welding Company.

X-Q. 5. Have you testified in other cases involving patents for electric welding machines or processes?

A. I have never been employed to actually testify but have been connected with another case relative to patents on electric welding.

X-Q. 6. Was that other case also in association with the Thomson Electric Welding case?

A. It was.

X-Q. 7. Do you recall what patents were involved in that case?

A. The case in question was the suit the Thomson Electric Welding Co. vs. Barney & Berry.

X-Q. 8. That suit was on the Harmatta patent which is involved in this interference, is it not?

A. It was.

X-Q. 9. Did you write out the substance of your testimony before testifying in this case?

A. I wrote out a discussion of the Ferranti interference, which was hardly the substance of my testimony today, although my testimony today was in accordance with the ideas set forth in my discussion.

X-Q. 10. And you referred to that memorandum in giving your testimony, particularly in answering Q. 13, did you not?

A. The only part I referred to was a tabulated list of patents to refresh my memory as to their patent numbers.

X-Q. 11. Didn't you refer to this memorandum in answer to Q. 13?

A. I did not.

X-Q. 12. During what period were you employed by the Baldwin Locomotive Works?

A. I believe it was the year 1904 although I'm not absolutely certain as to the exact date.

X-Q. 13. Was your employment for more or less than a year?

A. My employment was for less than a year.

X-Q. 14. What was your official rating at this time by this company?

A. I was hired by the Baldwin Locomotive Works by the Assistant Superintendent, Mr. Halsey, for the special purpose of developing a system of arc welding.

X-Q. 15. State your period of employment by the Hale & Kilburn Co.

A. I was employed by the Hale & Kilburn Co. for a period of five years, starting Jan. 1, 1910.

X-Q. 16. And what was your rating during that employment?

A. I was hired by Mr. E. G. Budd, Manager of the Company, especially for the purpose of developing spot-welding, butt-welding and arc-welding. My official title was engineer on electric welding.

X-Q. 17. Is it your notion that the description found in the de Ferranti provisional specification No. 11,921 is mis-descriptive of what is shown, for instance, in Figs. 1 and 2 of the de Ferranti complete specification No. 11,921?

(The witness is handed a printed copy of the de Ferranti British patent which includes the provisional specification, the complete specification and the drawings.)

(By Mr. Townsend: Objected to on the ground that it is improper cross-examination, the examination of the witness having been expressly confined on direct to the provisional specification which was unaccompanied by drawings and that the witness cannot be examined on cross as to the meaning of drawings not referred to on the direct and not in any way brought to his attention thereby. Counsel for Harmatta gives notice that he will hold opposing counsel strictly to the rule that by examining the witness upon those drawings he makes the witness his own and will be bound by the statements of the witness made in relation to those drawings. Counsel further reserves the right to move to strike out any cross-examination of the nature opened up by the question.)

A. This is the first I have seen of any drawings illustrating Ferranti's provisional specification. Fig. No. 1 illustrates fairly well that part of the specification where it says "Grooves may be cut across the edge of the ring." Fig. 2 illustrates diagrammatically without respect to the size of the grooves the part of the specification which says "Intersecting sets of grooves inclined to one another may be cut across the edge of the ring." These grooves are represented as being much wider than what I would have imagined from Ferranti's description, especially in view of the fact that Ferranti says the object to be kept in mind in this and in other modifications is to remove sufficient metal to enable the temperature to rise to the welding point * * * while at the same time leaving sufficient area untouched to insure due mechanical strength at the welding joint.

X-Q. 18. Now referring to what is shown in Fig. 2 of the de Ferranti specification No. 11,921, is it your notion that if one endeavor to make a weld with the projections spaced as shown in such figure, such upsetting of the projection would occur as to establish an arch from one projection to the adjacent projection?

(By Mr. Townsend: Same objection and notice it is agreed by counsel may stand without repetition as to all future questions of the same tenor as question 17.)

A. It will be noted in this drawing No. 2 that the projecting portions of the disk are of very slender cross-section and that only a small number of these projections engage the blade. Therefore the area of metal through which the current passes to the blade from the disk is of much less amount than the area of the blade. We therefore in this drawing have reversed the conditions which Ferranti says causes trouble. We now have a relatively large blade

to which are opposed very slender projections and unless the grooves are very shallow unequal heating will occur but in this case it will be the projections which get hot and not the blade. If, however, the projections are very short, if a weld is possible at all, it will occur as follows: The end of the blade will reach a welding temperature, the total projections will reach a welding temperature down to their roots, the body of the blade itself around the heated projections will become hot, and when the final welding pressure is applied which is necessarily called a welding operation, the blade will be forced against the projections upsetting them to such an extent that the blade at the welding temperature will reach the bottom of the groove and weld fast the same as when thermit is poured on relatively cool steel it raises the metal to the welding point and welds producing a weld across the entire blade.

(By Mr. Hall: The entire answer is objected to because it is a mere volunteered statement in no wise responsive to the question and simply serving to indicate the strong bias of the witness.)

X-Q. 19. Now having aired your views, please state whether, if one endeavors to make a weld with projections spaced as shown in Fig. 2 of the de Ferranti patent, such upsetting of the projections would occur as to establish arches between adjacent projections?

A. It is impossible to determine this answer from Fig. 2. This would all depend on how deep are the grooves.

X-Q. 20. Since you were retained in this case, have you made any actual experiment as a basis for the testimony which you have given and if so, when and where, and who was with you when the experiments were made?

A. I have made no tests or experiments since being retained in this case, but previous to that, however, I have often welded the end of a bundle of wires to a rod which presents almost an identical condition illustrated by Fig. No. 2 as well as that figure can illustrate.

(By Mr. Hall: "All of the answer is objected to as a mere volunteered statement not responsive to the question except the part reading "I have made no tests or experiments since being retained in this case.")

X-Q. 21. About how long or what amount of time is required in making an electric weld of the character referred to in the de Ferranti provisional specification as you understand it?

A. It is impossible to determine from the de Ferranti specification how long it takes to make a weld. Nothing is stated regarding the dimensions of the material being processed and this is usually a determining factor in the time required. Then, too, the speed of welding at the time of the Ferranti application was usually slower than it is at the present day.

X-Q. 22. How much time is required at the present day?

A. You would have to give me more specific information as to the time required in order to answer the question, that is, tell me the size of the blade and the size of the disk, and what variety of weld it is.

X-Q. 23. Well, I'll let you take, for instance, a turbine disk and a turbine blade, such as you know them; you may feel free to select the sizes and state them and tell us how long it would require "at the present day" and how long would have been required "at the time of the Ferranti application."

A. Taking the turbine disk as one-half of an inch thick and a blade of usual dimensions to correspond to that disk, and selecting the preparation of the disk as illustrated in Fig. 1 where grooves are cut across the face of the disk to make projections on the disk which correspond substantially to the shape and size of the blade, I would say, roughly speaking, the current would be on for a period of two seconds. This would not include the time of placing the work in the machine and removing the work from the machine. In the case which I have selected I do not believe the time would be materially different at the present day to what it was at the date of Ferranti's application.

X-Q. 24. And taking the case you have selected, are the parts to be joined pressed towards each other during the whole period the current is on?

A. The pressure applied is usually great at the start and as soon as the metal has been brought to a firm contact the pressure is reduced and at the completion of the weld the pressure is generally increased.

X-Q. 25. About how long does it take for the metal to become sufficiently plastic so that material change in the form thereof will occur taking the same example you have been referring to?

A. In the example which I have cited it would take practically two seconds because the current is stopped as soon as the metal is plastic enough. The final pressure referred to being only a momentary shove in the case of this light material which requires but an instant.

X-Q. 26. And does that shove take place before or after the current is stopped or shut off?

A. The current in usual practice in welding this light material, as in example, is cut off practically at the same instant the final pressure is applied.

Cross-examination closed.

Deposition closed.

J. H. GRAVELL.

NOTARY'S CERTIFICATE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

County of New York, State of New York, ss:

I, George E. Brown, a notary public within and for the County and State of New York, do hereby certify that the foregoing deposition of James Hardey Gravell was taken on behalf of Johann Harmatta in pursuance of the notice hereto annexed before me at the office of Townsend & Decker, 149 Broadway, New York City, State of New York, on the 13th day of April, 1916; that said witness was by me duly sworn before the commencement of his testimony; that the testimony of said witness was written out by Miss Irene Lefkowitz in my presence; that the opposing party, Sebastian Ziani de Ferranti, was represented by counsel during the taking of said testimony; that the deposition was read by the witness before the witness signed the same; that I am not connected by blood or marriage with either of said parties nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office at New York City, County of New York, this 13th day of April, 1916.

(Seal)

GEORGE E. BROWN.

Notary Public—Richmond County Certificate Filed in New York County, No. 179; New York Register No., 7223. Term Expires March 30, 1917.

Defendant's Exhibit No. 33.

631

2—208.—W.F.

36,709—58.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

April 15, 1916.

BEFORE THE EXAMINER OF INTERFERENCES.

IN THE MATTER OF THE INTERFERENCE OF

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

SIR:

You are hereby informed that the testimony, in behalf of Johann Harmatta have been received and filed. (2 batches.)

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

6—1962

Johann Harmatta, c/o
Townsend & Decker,
No. 149 Broadway,
New York, N. Y.

Docket Clerk
April 17, 1916.
U. S. Patent Office

36,709—59.
Application Room.
April 17, 1916.
U. S. Patent Office.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE NO. 36,709.

It is hereby stipulated and agreed that the time for taking the rebuttal testimony of de Ferranti be extended to include June 8th, and the final hearing be extended accordingly.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.
TOWNSEND & DECKER,
Attorneys for Harmatta.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

April 19, 1916.
Mailed " " "
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6-1652.

THOMAS EWING,
Commissioner of Patents.

The stipulation filed herein April 17, 1916, is approved, and times are fixed as follows:

Rebuttal testimony of De Ferranti to close June 8, 1916.

Final hearing August 9, 1916, at 11 A. M.

Because of the long period of time which this interference has been running, the Office will not be in position to further extend the time for testimony or the final hearing. The hearing has been set for August 9, 1916, and the parties are expected to be prepared for the hearing on that date.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
June 2, 1916.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Messrs. Townsend & Decker,
149 Broadway,
New York, N. Y.

GENTLEMEN:

Please take notice that on Tuesday, the 6th day of June, at ten o'clock in the forenoon, or as soon thereafter as counsel can be heard, before the Examiner of Interferences, we shall present a motion to strike out or suppress, of which a copy is annexed hereto, and a motion for an extension of De Ferranti's time to take testimony for a period of thirty (30) days, commencing to run after the determination of the motion to strike out or suppress.

Very respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,

June 1st, 1916.
KFH/HLD.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

And now comes the party De Ferranti, above named, by his attorneys and moves as follows:—

(1) That questions 5, 6 and 7 and answers thereto, occurring in the deposition of Herman Lemp, the questions 6 and 8 and the answers thereto, occurring in the deposition of James H. Gravell, be struck out, or suppressed, because they relate solely to the alleged prior state of the art and not to the question of priority of invention between the parties to this interference, or the question of De Ferranti's right to make claims corresponding to the issue of the interference.

(2) For an extension of De Ferranti's time to take testimony for a period of thirty days, commencing to run after the final determination of the above motion to strike out or suppress.

Very respectfully,

SEBASTIAN Z. DE FERRANTI,

By SPEAR, MIDDLETON, DONALDSON & SPEAR, Attys.

WFH/HLD.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Washington, District of Columbia, ss:

I, James M. Spear, being duly sworn, depose and say that I am of counsel for the party De Ferranti, above named, and am familiar with the proceedings heretofore taken in this interference.

That the testimony taken on behalf of Harmatta relates principally to the right of the party De Ferranti to make claims corresponding to the counts of this interference, and in order to meet this testimony deponent thinks it highly desirable to examine one or more experts specially skilled in the art of electric welding.

Deponent's firm communicated with their principal, who resides

in Great Britain, in respect to this matter and also investigated available experts in this Country. The latter experts, of which deponent's firm had knowledge, were found on investigation to be so connected with Harmatta, or his assignees, that they would be unavailable on behalf of the party De Ferranti in this case.

It was hoped to take the testimony of De Ferranti in this Country but it was found that he is now engaged in making war ammunitions on behalf of Great Britain and cannot leave that country for the purpose of coming to this Country to testify in the case.

The questions involved herein are unusually technical and it is consequently very difficult to find one competent to testify, particularly in view of the connection of the many experts in this line with the party Harmatta or his assignees.

Furthermore deponent sayeth not.

JAMES M. SPEAR.

Sworn to and subscribed before me this first day of June, 1916.

BENNETT S. JONES,

Notary Public.

(Seal)

WFH/HLD.

IN THE UNITED STATES PATENT OFFICE

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

AFFIDAVIT.

City of Washington, District of Columbia, ss:

I, Bessie I. Bishop, being of lawful age, being duly sworn, depose and say that on June 1st, 1916, I sent by registered mail to Messrs. Townsend & Decker, 149 Broadway, New York, N. Y., copies of the annexed papers in the above entitled interference.

BESSIE I. BISHOP.

Subscribed and sworn to before me this 2d day of June 1916.

BENNETT S. JONES,

Notary Public.

(Seal)

RECEIPT FOR REGISTERED ARTICLE.—No. 187128.

Class postage 1

WASHINGTON (STA G) D. C.

Registered

June 1, 1916.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

June 7, 1916.
Mailed " " "
Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

BEFORE THE EXAMINER OF INTERFERENCES.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6—1652.

THOMAS EWING,
Commissioner of Patents.

This case is before me on motion by De Ferranti, filed June 2, 1916, asking (1) that certain questions propounded to Harmatta's witnesses Lemp and Gravell, together with the answers thereto, be suppressed; (2) that De Ferranti's time for taking testimony be extended to run thirty days from the determination of the first part of the motion.

(1) There is no sufficient reason why the examiner should attempt to pass upon the propriety of the questions objected to at this time. It is always difficult to rule satisfactorily upon a few segregated questions without considering other portions of the record. This part of the motion will be continued until final hearing.

(2) The motion to extend De Ferranti's time will be granted.

The motion to strike out is deferred until the case comes on for final hearing on the merits.

The second part of the motion is granted and De Ferranti's time for rebuttal testimony is fixed to expire July 8, 1916.

Final hearing September 8, 1916, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Defendant's Exhibit No. 33.

637

Docket Clerk.
July 6, 1916.
U. S. Patent Office.

36,709—63.
Application Room.
July 6, 1916.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

It is hereby stipulated and agreed that De Ferranti's time for taking testimony in rebuttal, in the above entitled case, be extended two months from the date now set. The evidence required in rebuttal will be of an expert character largely, and in correspondence with the British Patent Attorney representing De Ferranti it has been ascertained that Mr. De Ferranti and every other leading expert is engaged in Government work in England, and it is not only impossible to secure the attendance of Mr. De Ferranti or any English expert on this side but we are still further advised that no leading expert could give attention to this matter at the present time even to answer interrogatories or to give evidence orally under a stipulation, and it is therefore imperative that further extension be secured of the time now set. As counsel for Harmatta have expressed themselves as quite willing to stipulate for this further extension it is urgently requested that the Office approve the stipulation without question under the circumstances.

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for Ferranti.

Not admitting that testimony properly in rebuttal of that given for Harmatta could be of such nature that it cannot be taken in this country at all, we consent to an extension of De Ferranti's time one month.

TOWNSEND & DECKER,

Attorneys for Harmatta.

IAW

2-224

Paper No. 64.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

July 7, 1916.
Mailed " " "
Interference Division

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6-1652

THOMAS EWING,
Commissioner of Patents

The stipulation filed herein July 6, 1916, is approved to the extent that De Ferranti's time for rebuttal testimony is fixed to expire August 8, 1916.

Final hearing: October 10, 1916, at 11 A. M.

It is noted that the stipulation calls for an extension of two months, but inasmuch as counsel for Harmatta has consented to but one month, the stipulation is approved to the extent above indicated.

H. E. STAUFFER,
Examiner of Interferences

Defendant's Exhibit No. 33.

639

Application Room.

36,709—65.

Aug. 7, 1916.

U. S. Patent Office.

Docket Clerk.

Aug. 7, 1916.

U. S. Patent Office.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE 36,709.

It is hereby stipulated and agreed that the time for taking rebuttal evidence in behalf of De Ferranti in the above entitled Interference be extended two months from the date now set.

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for De Ferranti.

TOWNSEND & DECKER,

Attorneys for Harmatta

LBF

2—224

Paper No. 66.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

August 9, 1916.

Mailed " " "

Interference Division

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

The stipulation filed herein October 7, 1916, is approved and times are extended as follows:

Rebuttal testimony of De Ferranti to close Nov. 9, 1916.

Final hearing: January 9, 1917, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences

Docket Clerk

36,709—70.

Nov. 22, 1916.

U. S. Patent Office.

Testimony and Exhibits for de Ferranti. (In box.)

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

INTERFERENCE No. 36,709.

Messrs. Townsend & Decker,

149 Broadway, New York, N. Y.

Gentlemen:

Please take notice that on Friday, the 10th day of November, 1916, at 10 o'clock in the forenoon, at our office, Victor Building, Washington, D. C., before Bennett S. Jones, a Notary Public, or other competent officer, we shall proceed to take testimony in the above entitled case on behalf of the party de Ferranti.

The witness to be examined is Frank L. Dyer, whose office address is 31 Nassau Street, New York City, and perhaps others whose names and addresses are not now known but of which you will be given due notice.

Proceedings will be adjourned from day to day and to such time and place as may be found necessary.

You are invited to attend and cross-examine.

Respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

Service accepted this 6th day of November, 1916.

TOWNSEND & DECKER,
Attorneys for Harmatta.

UNITED STATES PATENT OFFICE.

In re Interference:

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

Washington, D. C., November 10th, 1916.

Testimony taken on behalf of De Ferranti pursuant to notice annexed hereto commencing at the Office of Spear, Middleton, Donaldson & Spear, Victor Building, Washington, D. C., Friday, November 10th, 1916, at 10 o'clock in the forenoon before Bennett S. Jones, Notary Public.

Present: MESSRS. H. C. TOWNSEND and C. F. TISCHNER, on behalf of Harmatta;

WILLIAM F. HALL, on behalf of De Ferranti.

FRANK L. DYER, ESQ.

FRANK L. DYER, ESQ., a witness produced on behalf of De Ferranti, having been first duly sworn to testify to the truth, the whole truth, and nothing but the truth in answer to interrogatories, testified as follows:

Question 1. What is your name, residence and occupation?

Answer. Frank L. Dyer, age 46, Montclair, New Jersey; I am engaged in the manufacturing business with factories at Bloomfield, New Jersey, and Wyandotte, Michigan.

Q. 2. The case in which your testimony is being adduced is an interference pending in the United States Patent Office relating to methods of electric welding and involving the question of the disclosure of this invention in and by a certain foreign British patent. What experience have you had which qualifies you to testify as an expert in this case?

A. I have been intimately connected with matters relating to patents and inventions for upwards of thirty years and have had occasion to prosecute before the Patent Office several thousand applications for patents relating to many and diverse arts including the art of electric welding. I have made many inventions myself on which over one hundred applications for patents have been filed, many of them relating to electrical subjects. As a result of my work as an inventor, although not an engineer, I was elected an associate of the American Society of Mechanical Engineers. I was in active practice as a Patent Lawyer from 1892 to 1908, during

(By Mr. Townsend: Same objection and notice. Also objected to as leading.)

A. I do. The De Ferranti provisional specification refers to the difficulties experienced by the patentee "in electrically welding together the two parts which differ considerably as regards their power of rising to the required welding temperature when heated at the point of junction" (page 1, lines 6-8). It is, therefore, clear that the specification relates to an electric welding process in which the welding heat is secured by the resistance of the two pieces to be joined as distinguished from processes in which an electric arc is used. In a broad and general sense this is the so-called Thomson process originally invented and patented by Prof. Elihu Thomson about the year 1886. In the De Ferranti provisional specification the inventor refers to the desirability of so carrying the process out as to secure substantially uniform welding conditions at the point of junction when the two parts which are welded together differ considerably in mass, or in other respects differ considerably as regards their power of rising to the required welding temperature. The specification discloses a number of ways by which the welding process may be carried into effect, some of which, in my opinion, comply with the limitations of the claims in issue herein. I have prepared and present herewith drawings illustrating the several suggestions made by De Ferranti and disclosed by him in the provisional specification. Figure 1 illustrates the suggestion that "grooves may be cut across the edge of the ring" (lines 20 and 21). With this suggestion, assuming the invention is carried out in connection with welding a series of turbine blades to a suitable carrier, the turbine blades will be welded to projections on the carrier by a butt-welding process and not by the particular method disclosed in the claims in issue. Figure 2 discloses the arrangement suggested by De Ferranti in the statement "or several grooves may run circumferentially completely around the edge" (page 1, lines 21 and 22). In this figure I also illustrate on an enlarged scale the under face of one of the turbine blades showing the area of the several welds by section lines. These welds in Figure 2 correspond to the spots or distinct or separate spots separated from one another by well defined areas of no union as defined in the claims in issue. In other words, with the arrangement shown in Figure 2, the welds occupy only a part of the surfaces to be secured together, thus localizing the current within circumscribed paths and effecting a more rapid and economical welding operation than when the entire area of the surfaces constitutes the weld. In Figure 3, I illustrate the suggestion of De Ferranti described by the words "or, again, intersecting sets of grooves inclined to one another may be cut on the edge of the ring" (page 1, lines 22-23). In this figure I also show on an enlarged scale the underside of one of the parts (in this case a turbine blade) illustrating by sectional lines the well defined spots or areas constituting the plurality of welds and by means of which the

welding current will be localized within restricted or circumscribed areas. This particular figure is that of the De Ferranti drawing in interference and manifestly it corresponds with the restrictions and limitations of the claims. In Figure 4, I illustrate the arrangement which is described by the words "radial holes may be bored a short distance into the edge, either arranged in patterns, so as to leave intervening projections of untouched metal to which the blades may be welded" (page 1, lines 24-26). The weld in this case corresponds substantially to Figure 1, is coextensive with the entire area of the turbine blade and does not correspond with the limitations of the issue. In Figure 5, I illustrate the arrangement disclosed in the De Ferranti provisional specification by the words "or arranged without particular reference to the position of the blades" (page 1, lines 26-27). In this figure I show on an enlarged scale the under face of the turbine blade illustrating the area of the welds which are arranged in spots or defined areas so as to localize the heating current and this arrangement also, like those of Figures 2 and 3, corresponds to the limitations of the issue. In Figure 6, I illustrate the suggestion made in the provisional specification and described by the words "Again, the result aimed at may be secured by boring holes through from face to face of the ring at a radius slightly less than that of its outside edge." (Page 1, lines 32-33). With this suggestion the area of the weld will correspond to the entire engaging face of the turbine blade and therefore this particular suggestion does not correspond with the limitations of the issue. In Figure 7, I illustrate the suggestion described in the provisional specification by the words "the ring may be built up of two or more thinner rings held in their relative positions by distance pieces or in any other convenient manner, the blades being then welded in position on their outside edges" (page 1, lines 34-37). In this figure I also illustrate on an enlarged scale the bottom face of the turbine blade illustrating by sectional lines the area of the welds which are thus located in spots or well defined areas by which the heating current will be localized. Finally, in Figure 8, I illustrate the arrangement described by De Ferranti in the provisional specification by the words "Again, the ring may be built up of a set of laminae, the edges of which are notched, the laminae being assembled in such a way that the notches are "stepped" with regard to each other, the intervening projection of metal thus following the shape of the turbine blades to be welded to them." (Page 1, line 38; page 2, line 2). Assuming that with this arrangement the laminae are arranged closely together so that the projections referred to will constitute a substantially continuous surface to which the turbine blades are electrically welded, I find that with this suggestion the weld will occupy substantially the entire area of the bottom face of the turbine blade and will not correspond to the limitations of the issue. I do find, however, that the De Ferranti provisional specification, as illustrated in Figures 2, 3, 5 and 7, suggests a method of welding electrically two pieces of metal together

By spot welding, as I understand it, is meant the welding together of metallic pieces or surfaces, by a plurality of separate isolated welds separated by surfaces of non-union, the heating current being confined to or circumscribed by the restricted areas corresponding to the welds. In the De Ferranti divisional specification, means are suggested and methods are disclosed by which a satisfactory welding operation can be effected between two metallic pieces, one of which may be of enormously greater mass than the other, and by which the welding conditions as to these highly dissimilar parts may be made substantially constant. But De Ferranti in his provisional specification makes a further suggestion, and that is the welding of two metallic pieces together in a series of isolated defined spots separated by areas of non-union, and this latter suggestion is just as applicable to the securing together of metallic pieces having the same mass as the securing together of metallic pieces having widely different masses. Now referring to the Rietzel patent, to which you call my attention, particularly to Figures 1 to 3, I find that this patent discloses the same suggestion made by De Ferranti of securing together two metal pieces by a series of isolated welds, by which the current will be localized, but Reitzel suggests thus spot welding together two metal pieces of substantially the same mass, but the method followed, as I have said, is the same whether the masses are different or are substantially equal. In Figure 3, Reitzel shows one of the metal pieces as being formed with projections which are cast thereon, so that he is here dealing with a cast metal object as distinguished from sheet metal produced by a rolling operation and in which casting would be impossible. Now, so far as I can see, the projections shown by Reitzel, in Figure 3, correspond exactly to the projections disclosed by De Ferranti as being formed by cutting cross grooves in the ring, as I show in Figure 3 of the Exhibit, "Dyer Sketch." The only difference is that with Rietzel the projections are cast on one of the objects to be welded while with De Ferranti the projections are formed by cutting grooves in the metal object presumably by means of a milling machine. If the suggestion of De Ferranti is carried out for securing together two flat cast plates, such as Rietzel shows in Figure 3 of his patent, I am not able to perceive the slightest difference between the methods suggested by the two inventors with the single exception that with Reitzel the projections which define the spots and localize the current are formed by casting, while with De Ferranti the projections which define the spots and localize the current are formed by cutting grooves in the surface of the plate.

Recess.

Q. 7. Please consider the alleged prior art items referred to in the testimony adduced herein on behalf of the party Harmatta and state whether or not the disclosures which you find therein in anywise alter the opinion you have expressed that the invention defined by the issue of this interference is fully disclosed in the De

Ferranti British provisional patent to which you have referred? You may give your reasons for any statement you may make in this connection.

A. By prior art items I understand you mean the prior patents and publications referred to by the witnesses Lemp and Gravell, whose testimony has been taken on behalf of Harmatta, and with this understanding I will state that I have considered the same and do not find therein anything that in any way alters or effects the opinions I have already expressed concerning the sufficiency of the Ferranti provisional specification. Mr. Lemp refers to Thomson patent No. 347,141 as showing in Figure 8 a knife blade which "is champered to meet the diameter of the ax handle." I do not find this specifically described in the patent but I see no reason to question the correctness of Mr. Lemp's statement. This, however, is purely butt welding in which the weld occupies or is co-extensive with the entire area of the surfaces to be joined and is in no way analogous to or suggestive of spot welding. Mr. Lemp also quotes from the Electrical World of Dec. 25, 1886, in which the statement is made that when the pieces to be joined are of different metals, or of different sections, "the abutment or meeting point is placed nearer the clamp carrying the most resisting metal; or, the piece of smaller section, or the metal most readily fused, as the case may be, is so placed as to project least, for the purpose of favoring the accumulation of heat in the other piece," and Mr. Lemp also quotes from this article the statement that when the pieces are of different diameters "the end of the large piece is reduced to the size of the smaller before attempting to effect the weld." All of this I am quite prepared to admit was the practice in connection with butt welding but it has no relation or analogy to the more recent art of spot welding in which the pieces to be joined are secured together by a series of separate isolated welds which localize the heating current and which are separated by surfaces of non-union. Mr. Lemp also referred to Thomson patent No. 396,010 and calls attention to the knob or projection *b* to which the ends of the tool handle is butt welded by the old and well known butt welding method, even to the extent of the formation of a burr or fin as shown in Figure 12, which requires to be removed by a separate finishing operation but which presents no difficulty in spot welding. I see no analogy in this patent to spot welding in any sense of the word. All that it shows is a butt welding method. It does not disclose the welding together of two metal pieces by a series of isolated welds which localize the current and which are separated by surfaces of non-union. Mr. Lemp also refers to Thomson patent No. 434,530, Figure 10, but makes no comment thereon, at least specifically. I do not know whether this Figure shows a rod, bar, or plate. All that it clearly shows is the formation of two butt welds and is in no way suggestive of spot welding. He also refers to Thomson patent No. 487,302, Figure 4, showing a piece of carriage hardware, not otherwise identified, provided with two projections to which two pieces A and B are welded by an ordinary

butt welding operation. It is impossible to say whether the pieces A and B are rods, bars, or plates, but it is clear that nothing is here suggested of a spot welding process in which two metal pieces are joined by separate isolated welds localizing the current and separated by surfaces of non-union. Mr. Lemp finally refers to Figures 23, 25, 52, 56, 57, 76, 78 and 95 of an article on electric welding appearing in the Iron Age of January 28th, 1892, but I do not find in any of the examples shown in this publication the suggestion of spot welding two metallic pieces together, as I have explained.

I do not understand that Mr. Lemp refers to these instances of the prior art for the purpose of showing spot welding but only for the purpose of showing "that the sections of the parts to be welded electrically together should be modified so as to be as nearly equal as possible to produce equal heat." At best this merely relates to the suggestion made by De Ferranti that when the parts to be welded together differ widely in their thermal characteristics or mass, provision is to be made to so equalize conditions as to bring the adjacent surfaces to the welding temperature with substantial uniformity. The references to which Mr. Lemp refers do not, so far as I can see, have any relation whatever to the second suggestion made by De Ferranti, namely, that two metallic pieces may be joined by a series of separate isolated spots localizing the current and separated by surfaces of non-union. The references to the prior art made by Mr. Gravell seem to relate to prior Thomson patents, substantially all of which were considered by Mr. Lemp. According to Mr. Gravell: "all these patents refer broadly in adjusting the volume of the metal in the one part to that of the other part, so that the thermal and electrical characteristics in the two bodies will be practically equal." This also relates only to the suggestion of De Ferranti regarding the welding of two pieces together when they have widely different characteristics and has no connection whatever with the other suggestion made by De Ferranti of securing two metal pieces together by a series of spot welds localizing the current and separated by surfaces of non-union. In fact, so far as I can judge, the testimony of both Mr. Lemp and Mr. Gravell seems to be directed essentially to the single point of securing uniform terminal conditions when two pieces widely different in mass are to be welded together. As I understand it, the claims in issue have nothing whatever to do with this particular feature. They appear to have overlooked entirely the other suggestion made by De Ferranti of spot welding two metallic features together by means of a series of isolated separated welds which cause the current to be localized and restricted to the spots in the same way as suggested in the Dietzel patent. It seems to me that it is quite clear that this latter suggestion is independent of the former suggestion and is just as applicable to the welding of metallic pieces which are of practically the same mass as the welding together of pieces that differ widely in mass. In point of fact, the Rietzel patent discloses how this method can be carried out in connection with

sheet metal or with cast plates which presumably do not differ materially in mass.

Q. 8. The witness Lemp in answer to Q. 10 refers to "The conditions laid down by De Ferranti to insure the greatest mechanical strength at the welded joint," and in answer to cross-question 10 in referring to the projections he says "these should be as close together as possible consistent with producing the proper heating effect in order to obtain as large a welded surface of the blade to the carrier as possible." Do you find any warrant in the De Ferranti provisional specification for these statements, or any statement which would lead you either to agree with, or disagree from, the statement of Mr. Lemp?

A. No, I do not find anything in the provisional specification confirming these statements of Mr. Lemp. In fact, it would appear to me that the provisional specification gives precisely the opposite constructions. The statement in the provisional specification—"at the same time leaving sufficient areas untouched to insure due mechanical strength in the welded joint"—conveys to my mind the meaning that the area of the isolated welds is made large enough to give the necessary mechanical strength to the joint and that if a joint will be mechanically strong enough by utilizing for example 10 per cent of the area of the adjacent surfaces for the total, or aggregate, welding area, then 90 per cent of the opposed surfaces will represent areas of non-union. Mr. Lemp takes the position that with the provisional specification the instructions at all times are to secure the greatest possible mechanical strength, but, as a matter of fact, all that De Ferranti seeks to obtain is "due mechanical strength." If the maximum mechanical strength was desired assuming that all conditions are equal, then a joint which occupied the entire area of the turbine blade would be obviously stronger mechanically than one which occupied only a portion of that area. But De Ferranti does not indicate any preference for the former as against the latter, and therefore I should say that any skilled person reading the provisional specification and finding the suggestion of spot welding disclosed therein would so arrange the spots, or projections, as to give only sufficient, or in other words, due mechanical strength to the joint, and hence would seek to minimize the total area of the welded portion and to maximize the total area of non-union.

Q. 9. Testifying in this case Mr. James H. Gravell in answer to Q. 9 in part said as follows: "As Ferranti tells us in his specification that the object to be kept in mind is to insure a good weld and that only sufficient metal for this purpose is to be removed * * *." Do you find in the De Ferranti provisional specification any warrant for this statement?

A. No, I do not. The reasons for this opinion, I have pointed out in connection with substantially the same statement made by Mr. Lemp. All that De Ferranti considered necessary was to secure a weld of due mechanical strength and this is what will define the extent of the total welded area. If sufficient mechanical

X-Q. 21. Are they practically a reproduction of the sketches?

A. They are.

X-Q. 22. At the time you made the sketches had you made a study of the drawing and specification of the De Ferranti application involved in the interference 36,709?

A. No, I cannot say that I had. I have purposely refrained from considering the complete specification of Ferranti and limited myself to a critical study of the provisional British specification. I cannot say that I have not seen the drawings filed with the complete specification but I have never critically examined them. I did not see the Ferranti American specification involved in this interference until today. The sketches made by me were, so far as I could, made from a consideration of the provisional specification alone.

X-Q. 23. As a matter of fact, the drawings introduced as Dyer drawings are the same as some of the drawings of the complete British application of De Ferranti, excepting as to the added sectional figures appearing to the left of Figures 2, 3, 5 and 7, is not that the case?

A. Yes, substantially so, for example, my Figure 1, which was my understanding of the provisional specification, corresponds to Figure 1^a of the De Ferranti complete specification but differs in respect that the ring supporting the blades is shown as corresponding to the width of the blades, whereas in Figure 1^a of the complete specification, the blades overhang the ring. Of course, having seen the drawing forming part of the complete specification, one's mind probably consciously adopts forms of illustration. But to a person familiar with turbine construction, I should say that the drawings, as I have made them, from the provisional specification, would correctly illustrate the disclosures thereof.

X-Q. 24. In turbine construction is the aim of the constructor as a general rule, to form as complete, strong and extensive a union or homogeneity of structure of the blade and carrier having in view the great circumferential stresses to which the blades are subjected in the operation of the turbine?

A. No. It is only necessary that there shall be due mechanical strength between the turbine blade and the carrier.

X-Q. 25. Do you mean that there is no factor of safety considered or taken into account in the art of turbine construction, or to otherwise put it that the constructor aims to keep this union down to what he may consider due strength?

A. I mean that it is not necessarily the aim of the constructor to obtain the greatest or maximum mechanical strength. All that he desires is to secure due mechanical strength, having regard for a proper factor of safety. What I mean by this I can illustrate by an experience which we had at the Edison laboratory when Mr. Edison was developing a railroad car for operation with the storage battery. He wanted to make the car as light as possible and made careful tests of standard railroad cars to see in what respect they could be lightened. He discovered, for example, that the

steps of standard railroad cars have a breaking strain of 130,000 pounds, which of course is many times more than the maximum strain to which they would ever be subjected. Now this, as I understand it, is true with turbine construction. If we refer to the Ferranti complete specification, we find, for example, that in Figure 5 the turbine blade is welded to the carrier throughout its entire area, whereas in Figure 3, for example, the area of the weld is probably less than 50 per cent of the total. No preference is expressed by De Ferranti for one construction over the other and as he is one of the greatest engineers and machine designers in the world, there is no doubt that when the weld is limited to a part of the available area sufficient strength for the purpose is secured. And, of course, the amount of strength between the welded surfaces depends upon the use to which the process is put. If the strains tending to separate the part are not severe, the area of welding will be proportionately decreased.

Adjourned until tomorrow at 10 A. M.

November 11th, 1916.

Met pursuant to adjournment. Parties present as before.

Cross-examination of Mr. Townsend continued.

X-Q. 26. Have you refreshed your mind as to the nature of the welding operations which you allude to at the end of your answer 2 as having been witnessed by you and can you now state definitely what those operations actually were?

A. Yes, I find that the operations referred to were those described and claimed in patent No. 645,066 to Brown & Morse in which carbon electrodes were employed to produce the heating effect.

X-Q. 27. In those operations which you state were actually witnessed by you, was union effected by a solder or spelter interposed between the pieces to be joined and brought to a proper temperature by means of the heat conducted from the carbon electrodes?

A. That I do not recall. I observe that the claims of Brown & Morse, appearing in the Official Gazette, refer to "welding or brazing." With a welding operation the joint is secured by an actual fusion of the surfaces of the pieces to be joined. With a brazing operation an additional metal of lower melting point is used to effect the joint. At this date, almost 20 years after witnessing the operation, I do not recall whether the process was carried out with or without a spelter.

X-Q. 28. If you do not recall whether the union was effected by spelter, how can you say that you witnessed actual welding operations?

A. I referred to this matter only in a most incidental way and had no idea that it would be considered of more than passing in-

terest. I had a very fixed and definite recollection that the subject matter of the interference referred to was an electric welding process, but when I now refer to the claims and find that they speak of brazing also, I do not like to state positively that the operations I witnessed may not have been electric brazing. However, whether the operation was welding or brazing the two methods are very closely allied.

X-Q. 29. Have you ever personally done electric welding by an actual welding operation as distinguished from an operation which is in fact soldering, the solder being heated by an electric current?

A. No, I have not.

X-Q. 30. Do you recognize a well-defined difference in principle between electric welding by the what is some times called the electric resistance process wherein the pieces are brought to welding temperature by the development of internal heat in them and an electric soldering process, such as that which may have been witnessed by you as you now state?

A. I recognize fundamental distinctions between a process in which heat is developed by the internal resistance of the metals to be joined and that in which heat is developed in an exterior mass such as a carbon electrode. There is, of course, a distinction between electric welding in which the surfaces to be joined merely reach a condition of plasticity and electric soldering in which a metal having a lower melting point is actually melted and becomes liquid, but the two processes may be very closely allied. If, for example, the separate pieces C' shown in Figure 5 of the Rietzel patent were properly chosen with respect to melting points of the plates to be joined, I should say that such a process would be electric soldering or brazing.

X-Q. 31. Have you ever at any time witnessed or performed the operation of electric welding by the Thomson process as applied to a butt welding of pieces of metal?

A. I don't recall that I have.

X-Q. 32. Would the process described by De Ferranti in his provisional specification be carried out if the intersecting grooves were made narrower than those shown in your drawing, Figure 3, in proportion to the size of the intervening projections shown in your drawings?

A. I should say that so far as De Ferranti's suggestion of spot welding is concerned, it would be carried out in any connection where there is a series of separated and isolated welds localizing the current and with surfaces of non-union. According to the instructions of the De Ferranti provisional specification, the total combined area of these isolated welds is sufficient to give due mechanical strength. When the process is used in an art requiring great mechanical strength the total area of the isolated welds should be greater than when the process is carried out in an art where great mechanical strength is not required.

X-Q. 33. Could the approximately equal heating referred to by

the patentee in his provisional specification in the clause stating that "the invention, therefore, consists broadly in adjusting the volume of the metal of the disc, etc.," be secured if the grooves as shown in your drawing Figure 3 were made relatively narrower than therein shown? What I mean is in proportion to the size of the intervening projections.

A. The size and depth of the grooves defining the character of the projections would, in my opinion, be a matter of determination for each class of work to which the process is applied. The grooving of the larger element in any way, however ineffective, would be an approach towards uniformity and how nearly uniform the conditions must be to comply with this part of De Ferranti's invention I would not undertake to say because, as I understand it, this feature is not involved herein. When, however, the question of spot welding is concerned and is applied, for example, to securing together two metallic bodies of approximately the same mass, this question of uniformity of heating conditions does not arise at least to a conspicuous extent. In the latter case then the question of the selection of the size, location, and number of the projections which define the separate welds is purely a question of securing the desired mechanical strength.

X-Q. 34. Your answer does not seem to me to be directly responsive to my question and I will ask you to endeavor to make an answer conforming to the question, will you please try to do so?

A. I endeavored, so far as I could, to answer your question. I intended to have the inference drawn therefrom that so far as this particular feature of De Ferranti's invention is concerned there might be occasions in welding two parts together where in order to secure approximately equal heating the grooves should be made narrower than I show in Figure 3. But I felt that in entire fairness I should point out that when the process is applied to securing together pieces of substantially the same mass, this question of uniformity takes care of itself, and therefore the matter of selection of the size, number and location of the projections is purely a matter of securing the necessary mechanical strength in the joint.

(Objected to as irresponsible.)

X-Q. 35. Would the electrical welding of turbine blades to discs be an occasion of welding two parts together where in order to secure approximately equal heating the grooves could be made proportionately narrower in proportion to the size of the intervening projections than is shown in your drawing, Figure 3?

A. No, I should say not. For instance, my Figure 3 corresponds substantially to Figure 2 of De Ferranti's complete specification and this latter figure illustrates the proportion of grooves and projections used when the turbine blade is to be welded to the carrier. Of course, these proportions might be varied according to the capacity and type of the turbine. This matter is largely a

question of determination, as I have before said, depending upon the special conditions of each case.

X-Q. 36. I assume that your last answer is to be understood as in the negative to the question, am I right?

A. No. Not necessarily. What I mean is that in one turbine construction the proportion shown in my Figure 3 may be correct to secure equal heating effect. In another turbine construction the grooves might be narrower and in the third construction they might be wider.

X-Q. 37. To what differences of turbine construction do you allude in your last answer?

A. Differences in type and capacity. For instance, with a turbine of the Level type having enormously high shaft speeds the conditions are different from turbines of the Curtis type having much lower shaft speeds. A turbine with a small rotor turning at a very high speed presents different conditions from a turbine with a rotor of large diameter and turning at a relatively low speed.

X-Q. 38. How would these differences mentioned by you affect the proportion of width of groove to width of projection in the arrangement shown in your drawing Figure 3.

A. Still having reference to the feature of De Ferranti's invention in which he desires to secure uniformity of heating conditions, the question of varying the size and proportion of the grooves would depend largely upon the relative masses of the blade and carrier as well as the materials of which they are formed. The question of speed bears directly upon the question of mechanical strength, since the centrifugal pull on the blades in the high-speed turbine is very large and the area of the welds would have to be selected to give due mechanical strength to resist the tendency of the blades to fly off. I should therefore say that in turbine construction the proportioning of the grooves would be a matter for separate determination in each case.

X-Q. 39. What is the turbine construction alluded to in your answer 36 in which the grooves might be narrower as stated by you in that answer?

A. I have no particular construction in mind. What I meant was that constructions might be encountered in which a narrowing of the grooves might be desirable.

X-Q. 40. In making your sketch how did you arrive at the proportion of width of grooves and width of projections shown in your Figure 3?

A. I made the sketch from the provisional specification but, as I stated in my direct examination, previous to that time I had seen the drawing of the complete specification. I assume, therefore, that I followed unconsciously the mental impression of Figure 2 of the complete specification.

X-Q. 41. Is there any statement in the provisional specification of Ferranti that the areas of non-union should be made as extensive as possible?

A. Yes, I understand the expression "while at the same time leaving sufficient areas untouched to insure due mechanical strength in the welded joint" to mean precisely this. If De Ferranti had said that at all times the point should have the maximum mechanical strength, I would not get this impression, but when he says that due mechanical strength is all that is required, then it seems to me that this question of due strength is what determines the extent of the isolated welds, and therefore, when two pieces are secured together in which great mechanical strength is not necessary, the areas of non-union will be large.

X-Q. 42. But what about the statement that the objects is "to remove sufficient metal to enable the temperature to rise to the welding point as explained above"? Do you interpret that as an instruction to make the areas of non-union as extensive as possible?

A. No, I interpret that to mean that when the process is to be carried out for welding together two pieces of dissimilar mass sufficient metal is removed from the larger mass as to secure uniformity of heating conditions, the amount of metal removed depending upon the difference between the two masses.

X-Q. 43. Do you find any statement in the De Ferranti provisional specification that the invention is designed for or applicable to securing together of metallic pieces having the same mass?

A. No, I do not find any direct statement to the fact and I have not at any time asserted that there is any such statement in the provisional specification. All that I have asserted is that the method is just as capable of being carried out with objects of the same mass as in the Rietzel patent, which discloses the same method.

X-Q. 44. Would the methods disclosed by the provisional specification as you understand it be just as useful in the welding of pieces of the same mass as in the welding of pieces of a different mass?

A. So far as spot welding is concerned, yes. In this connection I quote from the standard hand book for electrical engineers (Mc-Graw-Hill Book Company, New York), where on page 1728 the statement is made "To overcome the difficulties due to non-uniform temperature distribution, what is known as spot welding has been developed. Spot welding usually consists of punching the surfaces to be welded in such a way that a series of joints of equal and definite area are made between the two, the whole object of the spot weld process is to reduce the welded point to an area of definite and uniform dimensions." The copy of the hand book from which I have read was published in 1915.

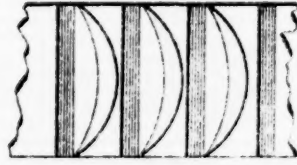
(By Mr. Townsend: The reference to the hand book is objected to as incompetent because the author of the statement, whose name appears at the head of the article, cannot be cross-examined, and as immaterial because of the late date of the hand book being 1915.

1660

**CHART
TOO
LARGE
FOR
FILMING**

De Ferranti } Interference No. 36709.
 v. }
 Dyer Drawings
 D.F.G. W.O.

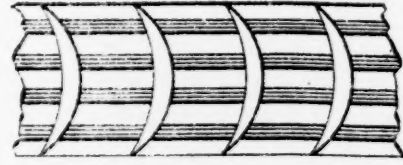
Fig. 1.



"GROOVES MAY BE CUT ACROSS THE
 EDGE OF THE RING" (L. 20-21)



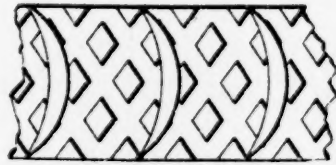
Fig. 2.



"OR SEVERAL GROOVES MAY RUN
 CIRCUMFERENTIALLY COMPLETELY
 AROUND THE EDGE" (L. 21-22)

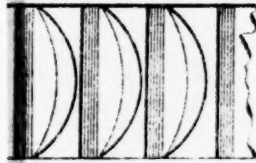


Fig. 3.



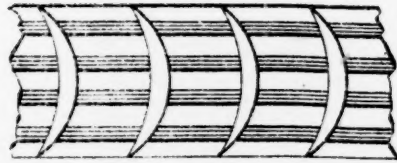
"OR, AGAIN, INTERSECTING SETS OF
 GROOVES INCLINED TO ONE ANOTHER
 MAY BE CUT ON THE EDGE OF
 THE RING" (L. 22-23)

Fig. 1.



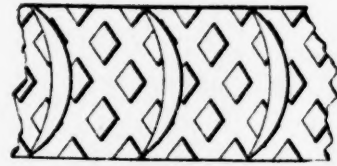
"GROOVES MAY BE CUT ACROSS THE
EDGE OF THE RING" (L. 20-21)

Fig. 2.



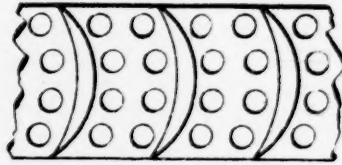
OR SEVERAL GROOVES MAY RUN
CIRCUMFERENTIALLY COMPLETELY
AROUND THE EDGE" (L. 21-22)

Fig. 3.



"OR, AGAIN, INTERSECTING SETS OF
GROOVES INCLINED TO ONE ANOTHER
MAY BE CUT ON THE EDGE OF
THE RING" (L. 22-23)

Fig. 4.



"RADIAL HOLES MAY BE BORED A
SHORT DISTANCE INTO THE EDGE,
EITHER ARRANGED IN PATTERN, SO
AS TO LEAVE INTERVENING PROJECTIONS
OF UNTOUCHED METAL TO WHICH THE
BLADES MAY BE WELDED" (L. 24-26)

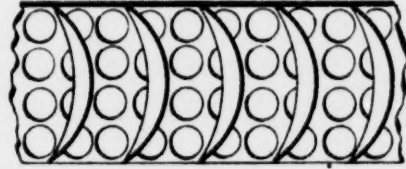
De Ferranti
v.
Harmatta

Interference No 36709

De Ferranti Exhibit 1
Wyer Drawings

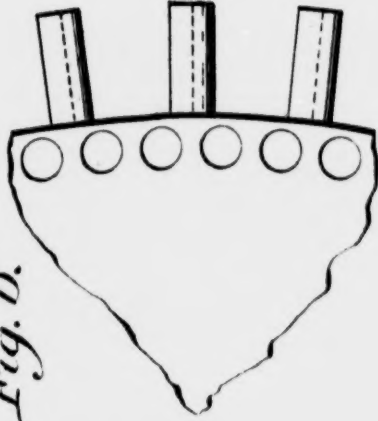
P. H. J.
Ed. P.

Fig. 5.



"OR ARRANGED WITHOUT PARTICULAR
REFERENCE TO THE POSITION OF
THE BLADES" (L. 26-27)

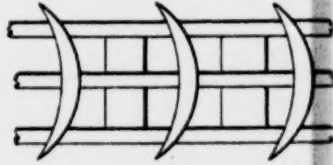
Fig. 6.



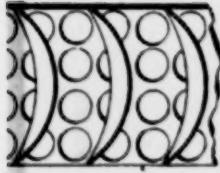
"AGAIN, THE RESULT AIMED AT MAY
BE SECURED BY BORING HOLES
THROUGH FROM FACE TO FACE OF
THE RING AT A RADIUS, SLIGHTLY LESS
THAN THAT OF ITS OUTSIDE EDGE"

(L. 32-33)

Fig. 7.

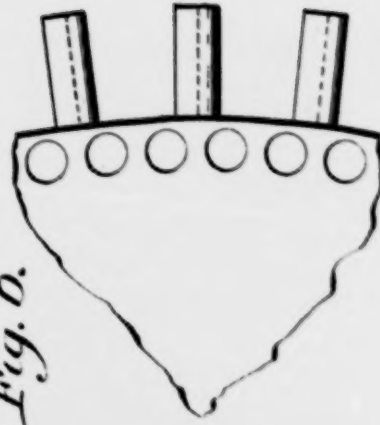


"THE RING MAY BE BUILT UP OF TWO OR MORE
THINNER RINGS HELD IN THEIR RELATIVE
POSITIONS BY DISTANCE PIECES OR IN ANY
OTHER CONVENIENT MANNER, THE BLADES
BEING THEN WELDED IN POSITION ON THEIR
OUTSIDE EDGES" (L. 34-37)



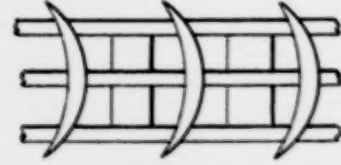
THE BLADES " (L. 26-24)

Fig. 6.



" AGAIN, THE RESULT AIMED AT MAY BE SECURED BY BORING HOLES THROUGH FROM FACE TO FACE OF THE RING AT A RADIUS SLIGHTLY LESS THAN THAT OF ITS OUTSIDE EDGE " (L. 32-33)

Fig. 7.



" THE RING MAY BE BUILT UP OF TWO OR MORE THINNER RINGS HELD IN THEIR RELATIVE POSITIONS BY DISTANCE PIECES OR IN ANY OTHER CONVENIENT MANNER, THE BLADES BEING THEN WELDED IN POSITION ON THEIR OUTSIDE EDGES " (L. 34-37)

Fig. 8.



" AGAIN, THE RING MAY BE BUILT UP OF A SET OF THIN LAMINAE, THE EDGES OF WHICH ARE NOTCHED, THE LAMINAE BEING ASSEMBLED IN SUCH A WAY THAT THE NOTCHES ARE ' STEPPED ' WITH REGARD TO EACH OTHER, THE INTERVENING PROJECTIONS OF METAL THUS FOLLOWING THE SHAPE OF THE TURBINE BLADES TO BE WELDED TO THEM " (L. 38-42)

1663

De Ferranti

v.

Harmatta

Interference No. 36709

"De Ferranti Exhibit 2.

Rietzel Patent ".

B. S. J.

N. P.

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U.S. PATENT OFFICE.

1670

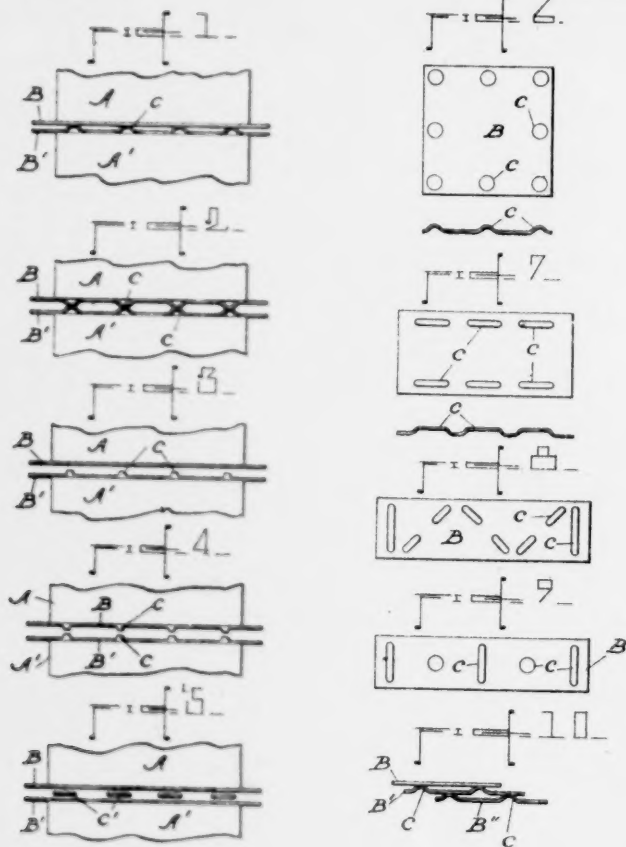
A. F. RIETZEL.

UNITING THE COMPONENT PARTS OF COMPOSITE SHEET METAL STRUCTURES.

APPLICATION FILED FEB. 24, 1905.

928,701.

Patented July 20, 1909.



WITNESSES:

Edw. G. G. G.
Edward G. G.

INVENTOR

Adolph F. Rietzel.

BY

Thos. D. D.
Thos. D. D.
ATTORNEYS

UNITED STATES PATENT OFFICE.

ADOLPH F. RIETZEL, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THOMSON ELECTRIC WELDING COMPANY, OF LYNN, MASSACHUSETTS, A CORPORATION OF MAINE.

UNITING THE COMPONENT PARTS OF COMPOSITE SHEET-METAL STRUCTURES.

No. 928,701.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed February 24, 1905. Serial No. 947,061.

To all whom it may concern:

Be it known that I, ADOLPH F. RIETZEL, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts; (with post-office address Lynn, Massachusetts,) have invented certain new and useful Improvements in Uniting the Component Parts of Composite Sheet-Metal Structures, of which the following is a specification.

My invention relates to the manner of uniting or fastening two pieces of metal to one another and its object is more particularly to afford a substitute for the manner of uniting pieces of metal as heretofore practiced in the art of electric welding.

As applied to sheet metal manufactures the object is to afford a cheap and practical substitute for riveting and other methods of mechanically securing the two pieces of metal together. As applied to this branch of the metal working arts, the invention affords a means whereby articles of composite sheet metal manufacture may be made up by fastening the pieces of metal constituting the structure with a perfectly secure union and by a process that can be economically conducted.

Briefly stated, the invention consists in electrically welding pieces together in spots definitely located in and involving a portion only of their meeting surfaces, by the application of pressure and heating current localized in such spot or spots.

By the terms "weld" and "electric weld", herein employed, I refer to that process of welding in which the metal is brought to plastic condition by passing an electric current from one to the other of two pieces where they are in contact and is welded while in such condition by the application of pressure, as contra-distinguished from a process of uniting metals, which is described in a patent to Bernardos, No. 363,320, dated May 17, 1887, and in which the union is effected by melting the metal by an arc and which is different from "welding" in the ordinary sense of the term as applied to metal manufactures, in that the metal is heated beyond the point of plasticity and pressure not employed.

It has been before proposed to electrically

weld two rods of metal together by a butt-welding process, the area of union effected being substantially coextensive with the cross-section of the pieces at their meeting ends, that is to say, the weld has been made over substantially the whole area of the opposed portions of said pieces. It has also been proposed to make a lap joint between the ends of two strips of metal by electrically uniting them together over substantially the whole area of the lapping surfaces. A weld formed according to my invention is distinguished however from such prior welds by the fact that the opposed surfaces are welded together in spots only, the heating electric current being localized or confined in any desired way to such spots so that the major portion of the opposed surfaces will not be involved in the welding, although they may, after the completion of the operation, lie in contact with one another or very close together.

My invention is particularly valuable in fastening of pieces of sheet metal together because not only does it limit the amount of electric energy required very considerably as compared with the prior methods of union, but it also diminishes the liability to burning of the metal which is liable to occur when the attempt is made to form a union of two sheets of metal by an electric welding process over substantially the whole area of the meeting or opposed surfaces.

In carrying out my invention any desired number of spots of union may be employed, such number depending obviously upon the extent of the meeting surfaces which are to be fastened together and also upon the strength of the union desired.

In carrying out my invention the localization of the flow of heating electric current and of welding pressure to the desired spot or spots may be brought about in any desired way. One of the preferred ways is by providing between the meeting surfaces or portions of the pieces to be united suitable conducting projections or points at the spots of union, which projections or points carrying the heating electric current from one piece to the other are so located in the meeting surfaces and are so separated from one another that on the application of the weld-

ing pressure the welded union resulting will be localized in the area of the opposed surfaces and will be substantially coextensive in area with the restricted area of the path of the effective heating current. Various ways of providing such points or projections will occur to those skilled in the art.

The preferred method is to indent the metal from the side reverse to that on which the union is effected by a suitable tool, the projections thus formed affording points for the passage of the electric current. This method is preferable also because it permits the welding to be produced at a multiplicity of spots simultaneously through the application of pressure over the whole rear surface of the plate, the points or projections in that case serving not only to localize the flow of the heating current but also to localize the welding pressure.

In the preferred manner of carrying out my invention in the case of sheet metal manufacture I provide projections from the meeting surfaces of both pieces that are to be united. Said projections may also be provided by interposing between the two plane sheets small pieces of conducting material which act in the same manner when the sheets are brought together, as projections which localize the heating current and the pressure. It will be understood, however, that in the latter instance as in the former, these pieces are so small and are placed such a distance apart that on the application of welding pressure there will be no running of the welds into one another but that the final union will be in spots only leaving well-defined areas on the meeting surfaces, in which the surfaces either lie in contact or separated from one another by a very thin space.

From the foregoing it will be seen that my invention is distinguished from prior methods of welding pieces of metal together in that it may be very cheaply practiced, because no attempt is made to weld over the whole of the opposed surfaces of the welded pieces; but on the contrary the union is at a spot or spots only which in ordinary cases will afford as strong a union as would be produced by the riveting of the pieces.

The invention further has the advantage that not nearly so much electric energy is required as is necessary when the electrically welded union extends over the whole area of the opposed surfaces. Moreover, the danger of burning when the attempt is made to weld two sheets of metal together by a lap weld is largely eliminated.

In the accompanying drawings Figures 1, 2, 3, 4 and 5 illustrate some of the ways in which the pieces of metal to be united may be prepared for the welding according to my invention. Figs. 6, 7, 8, and 9 show modifications in the form and disposition of the contact projections which result in the spots

of electrically welded union. Fig. 10 shows the assembling of three plates together for welding according to my invention.

In the various figures of the drawing the invention is illustrated as carried out with two sheets of metal B, B'. In Fig. 1, plate B' only is provided with the distinct or isolated spots (c) or projections for the flow of the electric current, to the plate B, which spots or points may be formed by indenting the plate with a suitable tool. The spots are located so far from one another that on the application of pressure coincidentally with the flow of electric current from one plate to the other there will be a number of distinct areas or spots of electrically welded union of the plates separated by well-defined areas on the meeting surfaces in which no union takes place. The resultant is however a fastening of the plates together securely and which is practically as effective as if the attempt were made to form a welded union over the entire areas of the meeting surfaces. Obviously, the greater the distance between the spots the lesser the number that would be used and hence the lesser the consumption of energy in effecting the weld. This is of considerable importance where the meeting areas are large or where a considerable amount of work has to be done. The welding pressure is conveniently applied by conducting blocks or electrodes, A, A', between which the two pieces B, B' are assembled. These electrodes, A, A', furnish the heating current while applying the pressure, the localization of the pressure in the spots being brought about in this instance by the pointing of the surfaces at point c.

In Fig. 2 both plates are provided with projections the points of which engage with one another, the pointing being produced by indenting the metal sheets from the rear.

Fig. 3 illustrates the localization of the welding by casting projections upon one of the sheets and Fig. 4 by casting projections on both pieces. The localization of the welding in spots might be effected as illustrated in Fig. 5 by interposing small pieces of metal at the spot or spots of desired union, these pieces operating when the plates are brought together in the same way as the projections before referred to. The number and size of the pieces and their distance apart is in this case, as before, so chosen that the application of pressure together with the flow of heating current from one plate to the other will result in a union of the two pieces over their opposed surfaces in spots only thereon.

Fig. 6 shows how the spots might be disposed to fasten the pieces together in distinct spots around their edges.

As shown in Figs. 7 and 8 the projections, instead of being round, might be somewhat elongated and irregularly or symmetrically arranged.

Fig. 9 shows round and somewhat elongated projections combined.

In all these instances however, the union over the surfaces of the plates is confined to spots or areas which are of comparatively small extent as compared with the total area of the meeting surfaces. As will be obvious, the form and disposition of the points or projections of initial contact for flow of the electric current and localization of the pressure may be greatly varied without departing from my invention.

Fig. 10 illustrates the welding of three plates of sheets together when superposed.

My invention is especially useful in the manufacture of articles from sheet metal which are stamped out to different forms, and which have heretofore had their component portions united by riveting or other purely mechanical expedient which is not only expensive but requires generally special tools and results in many cases in an insecure union. When the invention is employed in its preferred form or manner of practice in the field of sheet metal manufacture all that is necessary is to provide the contact spots or projections as already described and then to assemble the pieces in an electric welding machine and weld them together as already set forth.

The product of the foregoing process is readily distinguishable from that produced by melting down the metal of the pieces, from the back at spots as proposed in the before mentioned patent of Bernardos in that there is no substantial alteration of condition of the metal back of the welds appearing as a burning, roughening or disintegration of the material by the very great heat of the electric arc employed for melting down the metal, and by the further fact that the unions themselves in the material of the juxtaposed or opposite faces have the characteristics of a true weld produced by bringing the metal to welding temperature only and applying pressure, so that the pieces are solidly and firmly united and cannot be readily torn apart as they could be if the metal at the spots has been melted down under the high temperature of the electric arc.

The product in the form of sheet metal is further particularly useful for sheet metal ware since the outer or exposed surface of the metal will have the smooth and practically unaltered finish of sheet metal and said surface will not be substantially marred when the process is properly conducted, excepting for the presence of such infrequent small depressions as might remain from the previous indentation of the metal from the back when, as hereinbefore described, an indenting of the metal may be resorted to.

The product in sheet metal also possesses the advantage that the spots of welding when located within the edges of the meeting

surfaces will not show. The product is also superior to that produced by riveting of the plates in that there are no rivet heads to mar the finish of the back or outer surfaces of the metal.

What I claim as my invention is:

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

5. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and, simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets at spots entirely surrounded by areas of no union.

6. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surfaces a well-defined and comparatively extensive area of no union completely surrounding said spot.

7. The method of welding two pieces of metal together, consisting in superposing said pieces with their surfaces at which the union is to take place superposed or pre-

sented to one another, pressing the pieces together, and passing a heating electric current from one to the other while localizing the heating current simultaneously in a number of distinct or separate spots of limited area, separated from one another sufficiently to secure a union of the pieces in a number of corresponding distinct spots surrounded by and separated from one another by distinct areas in which no union exists.

8. The method of uniting two pieces of metal, consisting in providing between their meeting surfaces a number of projections, spaced apart as described, pressing the pieces together and passing an electric current through said projections while confining the welding area of such current to said projections so as to leave distinct areas around spots in which no welding shall be produced.

9. The method of fastening two plates of metal together at a multiplicity of distinct or separate points of welded union, consisting in providing between them a number of isolated contact spots adapted to pass an electric current from one to the other but so separated that the electric welds will be separated from one another by unwelded areas, passing a heating electric current through such spots simultaneously and applying pressure as and for the purpose described.

10. The herein described method of electrically welding two plates or sheets of metal of any gage together by distinct spots of union disposed over their plane surfaces, consisting in providing a multiplicity of electrical contact spots coincident with the separated spots of union and disposed at such distances apart that there will be well-defined areas between spots through which the electric current will not flow, passing electric current from one plate to the other through said contact spots simultaneously and applying pressure as and for the purpose described.

11. The method of fastening two sheets of metal together, consisting in providing between them a number of isolated contact spots for the passage of the electric welding current, said spots being adapted to initially hold the plates apart and being separated from one another a sufficient distance to confine the welding to distinct areas or isolated spots, passing a heating electric current through a number of said contact spots simultaneously and pressing the plates together as and for the purpose described.

12. The method of fastening two plates of metal together, consisting in furnishing a surface of said plates with a number of projecting contact spots for the passage of welding electric current and disposed at such distances apart that on the application of pressure the welds will not run into one another,

superposing said plates, passing a heating electric current from one to the other over said separated spots and applying the pressure to produce a spot-welding of the plates to one another as and for the purpose described.

13. The herein described method of fastening two pieces of metal together by providing each plate with a number of projecting contact spots on its plane surface disposed at such distances apart that the union will not run into one another but will, nevertheless, firmly hold the plates together, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other through the spots and simultaneously applying pressure thus uniting the plates at a number of distinct points of welded union.

14. The method of uniting two sheets of metal face to face, consisting in indenting the material, superposing the plates with the points of the indentations engaged, passing an electric current from one plate to the other through said points simultaneously, and applying pressure while confining the area of heating to welding temperature to a circumscribed area or spot entirely surrounded by areas unheated to welding temperature to unite the pieces in a distinct spot or spots of small extent in the whole area of the opposed faces.

15. The herein described method of fastening two plates together at a multiplicity of distinct mechanically separated points of welded union, consisting in indenting each plate to form a number of projecting contact spots on the plane surfaces which are to abut, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other thereby forming a number of distinct zones or points of heated metal, heated to welding temperature, and applying pressure to complete the union of plates by a number of mechanically distinct unions.

16. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas.

17. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only, each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

18. Composite metal work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

19. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered

over said spot, as and for the purpose described.

20. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and autogenous welded union, the metal at the spots of welded union having substantially the same qualities as at other points.

Signed at Lynn in the county of Essex and State of Mass. this 7th day of Feb. A. D. 1905.

ADOLPH F. RIETZEL.

Witnesses:

EDWIN W. HAWES.

E. I. FOSTER.

DISCLAIMER.

928,701.—*Adolph F. Rietzel*, Lynn, Mass. UNITING THE COMPONENT PARTS OF COMPOSITE SHEET-METAL STRUCTURES. Patent dated July 20, 1909. Disclaimer filed June 12, 1915, by the assignee, *Thomson Electric Welding Company*.

Enters this disclaimer to that part of the invention described in said patent which is set forth in the specification in the following words:

"Briefly stated, the invention consists in electrically welding pieces together in spots definitely located in and involving a portion only of their meeting surfaces, by the application of pressure and heating current localized in such spot or spots"—except when that process is carried out by the preferred method of providing conducting projections or points between the meeting surfaces of the pieces to be united; and also enters its disclaimer to that part of the claim in the specification which is in the following words:

"1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

"2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

"3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

"4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

"5. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and, simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets at spots entirely surrounded by areas of no union.

"6. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surfaces a well-defined and comparatively extensive area of no union completely surrounding said spot.

"16. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas.

"17. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only, each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

"18. Composite metal work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

"19. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered over said spot, as and for the purpose described.

"20. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and autogenous welded union, the metal at the spots of welded union having substantially the same qualities as at other points."—(*Official Gazette*, June 22, 1915.)

167.

Defendant's Exhibit No. 33.

685

2-208.—W. F.

36,709.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,
BEFORE THE EXAMINER OF INTERFERENCES.

November 23, 1916.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

SIR:

You are hereby informed that the testimony, and exhibits, in behalf of Sebastian Ziani de Ferranti have been received and filed.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

6-1962

Sebastian Ziani de Ferranti, c/o
Spear, Middleton, Donaldson & Spear,
Victor B'ld'g.,
Washington, D. C.

Docket Clerk.
Nov. 25, 1916.
U. S. Patent Office.

36,709—72.
Application Room.
Nov. 25, 1916.
U. S. Patent Office.

UNITED STATES PATENT OFFICE,

In re Interference:

JOHANN HARMATTA

vs.

SEBASTIAN ZIANI DE FERRANTI.

No. 36,709.

NOTICE OF HEARING ON MOTION TO STRIKE OUT TESTIMONY.

Messrs. Spear, Middleton, Donaldson & Spear,
Attorneys for De Ferranti,
Victor Building, Washington, D. C.

SIRS:

PLEASE TAKE NOTICE that we shall call up the annexed motion for hearing before the Examiner of Interferences on Tuesday, the 28th day of November 1916, at 10 a. m. or as soon thereafter as counsel can be heard.

TOWNSEND & DECKER,
Attorneys for Harmatta.

Due service of the above notice and annexed motion acknowledged this 25 day of Nov 1916.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.

Application Room,
Nov. 25, 1916.
U. S. Patent Office.

UNITED STATES PATENT OFFICE,

In re Interference:

JOHANN HARMATTA

vs.

SEBASTIAN ZIANI DE FERRANTI.

No. 36,709.

MOTION TO STRIKE OUT TESTIMONY.

NOW COMES JOHANN HARMATTA, by his attorneys, and moves to strike out the following portions of the testimony taken

on behalf of De Ferranti on the 10th and 11th days of November 1916, to wit:

All of Q. 6 referring to the Rietzel patent and embraced in the sentence beginning "In this connection you might also consider the disclosure in patent 928,701, Reitzel, July 20th 1909" and ending with the words "disclosure in this Rietzel patent."

All portions of the answer 6 referring to the Rietzel patent and beginning on page 4 of the deposition as filed with the words "Now referring to the Rietzel patent", down to the end of the answer on page 15.

The final sentence of answer to Q. 7 reading "In point of fact the Rietzel patent" etc.

The offer in evidence of the Rietzel patent if the same is to be taken as a part of the deposition of the witness and as evidence in rebuttal.

All of the answer to X-Q. 44 referring to the Standard Handbook for Electrical Engineers excepting the first sentence of said answer.

The grounds of this motion are those stated by counsel for De Ferranti on the record and upon the general ground that the testimony and portions of the record embraced in the above motion are incompetent as rebuttal testimony taken for De Ferranti.

We also move for a stay of proceedings pending the final determination of this Motion.

JOHANN HARMATTA.
By TOWNSEND & DECKER,
Attorneys.

2-224.—JHD

Paper No. 73.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,
BEFORE THE EXAMINER OF INTERFERENCES.

Nov. 28, 1916.
Mailed " " "
Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6-1652.

At the request of the parties, the hearing on the motion of Harmatta to strike out certain testimony now noticed for November 28, 1916, is hereby continued to December 4, 1916, at 10 A. M., before the examiner of interferences.

H. E. STAUFFER,
Examiner of Interferences.

2—224.—JHD

Paper No. 74.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

BEFORE THE EXAMINER OF INTERFERENCES.

December 4, 1916.
Mailed " " "
Interference Division.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6—1652.

THOMAS EWING,
Commissioner of Patents.

This case is before me on motion by Harmatta, filed Nov. 25, 1916, to strike out certain of the testimony taken by de Ferranti in rebuttal.

It is quite difficult to satisfactorily pass upon matters of this kind without reading the entire record. There is apparently no sufficient reason why this should be done prior to the final hearing.

Action upon this motion is therefore hereby deferred until the case is presented at final hearing on its merits.

H. E. STAUFFER,
Examiner of Interferences.

Application Room.
Dec. 12, 1915.
U. S. Patent Office.

36,709—75.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

It is hereby stipulated and agreed that the time for the completion of the testimony in rebuttal of de Ferranti be extended to include January 15th, 1917.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.
TOWNSEND & DECKER,
Attorneys for Harmatta.

2—224—JHD

Paper No. 76.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

BEFORE THE EXAMINER OF INTERFERENCES.

December 14, 1916.
Mailed " " "
Interference Division.

IN RE INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6—1652

The stipulation filed December 12, 1916, is approved, and the times herein are extended as follows:

Rebuttal testimony of de Ferranti to close January 15, 1917.

Final hearing March 20, 1917, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk,

36,709—77.

Jan. 13, 1917.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

It is hereby stipulated and agreed that the time for closing the rebuttal evidence by De Ferranti be extended thirty days from the time now set. A cablegram has just been received by the attorneys for De Ferranti to the effect that their British correspondents are pressing to secure the evidence which they consider necessary and vital to this case, but that they are delayed by war conditons. It is believed that this is a sufficient reason for the granting of the extension.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.
TOWNSEND & DECKER,
Attorneys for Harmatta.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.

BEFORE THE EXAMINER OF INTERFERENCES.

January 15, 1917.
Mailed " " "
Interference Division.

IN RE INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6-1652.

THOMAS EWING,
Commissioner of Patents.

The stipulation filed herein January 13, 1917, is approved and times are extended as follows:

Rebuttal testimony of De Ferranti to close Feb. 15, 1917.

Final hearing: April 17, 1917, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
Feb. 14, 1917.
U. S. Patent Office

36,709-79

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

It is hereby stipulated and agreed that the time for closing the rebuttal evidence of de Ferranti be extended thirty days from the time now set.

We are as yet without the necessary information from our British correspondents to complete this rebuttal, still delayed by war conditions.

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.
TOWNSEND & DECKER,
Attorneys for Harmatta.

2-224-LBF

Paper No. 80.

DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,
BEFORE THE EXAMINER OF INTERFERENCES.

February 15, 1917.
Mailed " " "
Interference Division.

IN RE INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,
Commissioner of Patents.

6-1652

The stipulation filed February 14, 1917, is approved and the times herein are extended as follows:

Rebuttal testimony of De Ferranti to close Mar. 17, 1917.

Final hearing: May 17, 1917, at 11 A. M.

J. W. MILBURN,
Acting Examiner of Interferences.

(Printed Letter Head Omitted)

Docket Clerk, Washington, D. C., February 20th, 1917.

Feb. 21, 1917.

U. S. Patent Office.

36,709-81

Hon. Commissioner of Patents,
Washington, D. C.

SIR:

Please permit Mr. E. M. Kitchen to examine the entire record in De Ferranti vs. Harmatta, Interference No. 36,709.

Respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR

BIB

Defendant's Exhibit No. 33.

693

(Printed Letter Head Omitted)

Docket Clerk,
Mar. 2, 1917.
U. S. Patent Office.

Washington, D. C., March 2nd, 1917.

36,709--82.

Hon. Commissioner of Patents,
Washington, D. C.

SIR:

Please permit Mr. V. A. Fynn to have access to the record in de
Ferranti v. Harmatta, No. 36,709.

Very respectfully,
SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for de Ferranti.

HLB
Docket Clerk,
Mar. 19, 1917.
U. S. Patent Office.

36,709--83.
Application Room.
Mar. 19, 1917.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

S. Z. DE FERRANTI

vs.

JOHANN HARMATTA.

INTERFERENCE No. 36,709.

STIPULATION.

It is hereby stipulated and agreed that the time for completing the rebuttal evidence on behalf of De Ferranti be extended thirty days. The Attorneys for De Ferranti are still awaiting word from their client with necessary information for the preparation of interrogatories and this information has been delayed, due to the fact that De Ferranti is engaged in Government contracts and has been unable up to the present time to give attention to his personal matters.

Very respectfully,
SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.
TOWNSEND & DECKER,
Attorneys for Harmatta.

1686

694

Defendant's Exhibit No. 33.

2-224-IAW

Paper No. 84.

DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

BEFORE THE EXAMINER OF INTERFERENCES.

March 21, 1917.
Mailed " " "
Interference Division.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6-1652

THOMAS EWING,
Commissioner of Patents.

The stipulation filed herein March 19, 1917, is approved and times are extended as follows:

Rebuttal testimony of De Ferranti to close Apr. 17, 1917.

Final hearing: June 19, 1917, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences.

(Printed Letter Head Omitted)

Docket Clerk.

Apr. 5, 1917.

U. S. Patent Office.

Hon. Commissioner of Patents,
Washington, D. C.

Washington, D. C., April 4, 1917.

36,709-85.

SIR:

Please permit Mr. A. S. Pattison to examine the record in the Interference of de Ferranti v. Harmatta No. 36,709.

Very respectfully,
SPEAR, MIDDLETON, DONALDSON & SPEAR.

REO

Docket Clerk.
Apr. 16, 1917.
U. S. Patent Office.

36,709—86

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

AFFIDAVIT.

City of Washington, District of Columbia, ss:

I, A. G. Sanford, being duly sworn, depose and say that I am a clerk in the employ of Spear, Middleton, Donaldson & Spear, and am of lawful age and that on the 14th day of April, 1917, placed a copy of each of the annexed papers in an envelope addressed to Messrs. Townsend & Decker, 149 Broadway, New York, N. Y., and sent the same by registered mail, as per registered receipt hereto attached.

A. G. SANFORD.

Sworn to and subscribed before me, a Notary Public, this 16th day of April, 1917.

EWD. L. TOLSON,
Notary Public.

(Seal)

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Messrs. Townsend & Decker,
149 Broadway,
New York, N. Y.

GENTLEMEN:

Please take notice that on Tuesday, April 17th, at 10 o'clock in the forenoon, we shall present to the Examiner of Interferences, the attached motion for an extension of the time for taking testimony on behalf of De Ferranti.

Respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys for De Ferranti.

April 14th, 1917.
HLD.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

And now comes De Ferranti, by his Attorneys, and moves for an extension of twenty days (20) of his time for taking rebuttal testimony, and in support of the motion reliance is placed upon the affidavit of James M. Spear, hereto attached.

Respectfully,

SEBASTIAN DE FERRANTI.

By SPEAR, MIDDLETON, DONALDSON & SPEAR,
Attorneys.

April 14th, 1917.

HLD.

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

City of Washington, District of Columbia, ss:

James M. Spear, being duly sworn, deposes and says that he is a member of the firm of Spear, Middleton, Donaldson & Spear, Attorneys for De Ferranti, party to the above entitled interference and has been conversant with the progress of said interference; that promptly after the conclusion of the taking of testimony on behalf of Harmatta deponent's firm proceeded with the matter of the taking of rebuttal evidence on behalf of De Ferranti and to this end deponent's firm corresponded with the English attorneys of Ferranti, from whom the U. S. application was received; that after unavoidable delays and at the earliest possible moment testimony of Mr. Frank L. Dyer, as an expert, was taken on behalf of Ferranti; that it is deemed essential to the interests of De Ferranti that his testimony as inventor, the testimony of Mr. Gerald Stoney, for many years chief assistant to Hon. Charles Parsons, the famous steam turbine inventor, and that of Mr. M. Atkinson Adam, who prepared the original De Ferranti English application as well as the U. S., be taken also in rebuttal; that the testimony,

which these parties will give, will in deponent's opinion be material and necessary to the interests of De Ferranti; that deponent has been informed and believes that it is absolutely impossible for these parties to come to this country to testify; due to war conditions and the fact that they are all engaged in important governmental matters connected with the war; that deponent's firm has been consistently diligent in its efforts to obtain the necessary data from said parties to enable it to prepare the necessary interrogatories to accompany a motion to take testimony abroad; that deponent's firm has only this day received from its English correspondents information for the preparation of interrogatories for the deposition of said M. Atkinson Adam and is informed by the letter accompanying said information that deponent's English correspondent expected to mail in a few days thereafter information for the preparation of interrogatories for the depositions of the said parties De Ferranti, and Stoney; that deponent's firm is informed by its English correspondents and deponent, therefore, believes that it has been absolutely impossible to get this material earlier, due to the fact that said parties Adams, De Ferranti and Stoney, have, as heretofore stated, been engaged in important governmental and munition work, which absolutely precluded their giving proper attention to their private business; that as heretofore stated it is believed that the evidence to be taken is important and material; and that this motion is made in good faith and not for the purposes of delay.

JAMES M. SPEAR.

Subscribed and sworn to before me this 14th day of April, 1917.

(Seal)

EDW. L. TOLSON,

April 14th, 1917.

HLD.

Notary Public.

Docket Clerk.

36,709—87.

Apr. 17, 1917.

U. S. Patent Office.

S. Z. DE FERRANTI

vs.

JOHANN HARMATTA.

INTERFERENCE No. 36,709.

AFFIDAVIT.

City of Washington, District of Columbia, ss:

Bessie I. Bishop, being duly sworn, deposes and says that she is a clerk in the employ of Spear, Middleton, Donaldson & Spear, Attorneys for De Ferranti; that on this 17th day of April 1917, she

enclosed copies of the attached motion paper in an envelope addressed to Messrs. Townsend & Decker, 149 Broadway, New York, N. Y., and sent the same by registered mail, as per the registry receipt hereto attached.

BESSIE I. BISHOP.

Subscribed and sworn to before me this 17th day of April, 1917.

EDW. L. TOLSON.

(Seal)

Notary Public.

IN THE UNITED STATES PATENT OFFICE.

S. Z. DE FERRANTI

v.s.

JOHANN HARMATTA.

INTERFERENCE NO. 36,709.

Messrs. Townsend & Decker,
149 Broadway, New York, N. Y.

Gentlemen:

Please take notice that on the 20th day of April, 1917, at 10 o'clock in the forenoon, we shall present to the Examiner of Interferences the attached motion for leave to take testimony abroad in the above entitled interference.

Very respectfully,

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attys. for De Ferranti.

Service accepted this . . . day of April, 1917.

.....
Attys. for Harmatta.

April 17th, 1917.

IMS/HLD.

IN THE UNITED STATES PATENT OFFICE.

S. Z. DE FERRANTI

v.s.

JOHANN HARMATTA.

INTERFERENCE NO. 36,709.

MOTION.

And now comes De Ferranti, by his attorneys, and moves for permission to take testimony abroad before the U. S. Consul-General in London, England, of the following parties, to wit: Sebastian Z. De Ferranti, Gerald Stoney, and M. Atkinson Adam, all of London, England.

It is expected that these witnesses will each and all rebut the testimony of Herman Lemp, and James H. Gravell, expert witnesses produced on behalf of Harmatta; and specifically that they will establish that the disclosure of the De Ferranti provisional application in Great Britain is a disclosure of spot welding and not merely butt welding as contended by the witnesses produced on behalf of Harmatta, and that they will corroborate the testimony of Frank L. Dyer heretofore taken on behalf of De Ferranti, and that, therefore, they will establish the fact that the disclosure in the said British provisional specification fully supports the issues of the interference, the contrary to which has been alleged by said witnesses produced on behalf of Harmatta.

It is further expected that the witnesses De Ferranti and Adam will testify that De Ferranti produced a weld between the blade and carrier which did not extend over the whole surface of the turbine blade, but on the contrary as welded at isolated spots only of their juxtaposed surfaces.

It is further expected that the witnesses will clearly differentiate the disclosure in the De Ferranti English Provisional specification from the prior art discussed by the witnesses produced on behalf of Harmatta and refute the assertions made by said witnesses Lemp and Gravell as to the identity of such disclosure of De Ferranti with the prior art.

It is further expected that the witness Stoney will produce sketches made by him from the disclosure of the De Ferranti Provisional specification only, and will explain how and why this is spot welding as distinguished from butt welding.

It is further expected that the witnesses each and all will testify that the welding of the blades in isolated spots only of their juxtaposed surfaces is not inconsistent with the requirements of "due mechanical strength" mentioned in said Provisional specification, as asserted by the witnesses produced on behalf of Harmatta and will give their reasons therefor.

Respectfully,

S. Z. DE FERRANTI.

By SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys

April 16th, 1917.

JHS/HLD.

IN THE UNITED STATES PATENT OFFICE.

S. Z. DE FERRANTI

vs.

JOHANN HARMATTA.

INTERFERENCE No. 36,709.

AFFIDAVIT.

City of Washington, District of Columbia, ss:

James M. Spear, being duly sworn, deposes and says that he is a member of the firm of Spear, Middleton, Donaldson & Spear, attorneys of record for De Ferranti in the above entitled interference; that the present motion for leave to take testimony abroad is made in good faith, and not for the purposes of delay, or of vexing or harassing the opposing party to the case; that the said motion gives the names of the witnesses and the facts to which each is expected to testify, and deponent believes the witnesses will so testify by reason of information to this effect received by his firm from said parties; that deponent believes said testimony to be material and competent and necessary to the end of justice; that it cannot be taken here without hardship to the moving party greatly exceeding that to which the opposing party will be exposed by the taking of the testimony abroad and in fact cannot be taken at all here, as said parties cannot leave England, due to their employment by the government or important munition and governmental work connected with the war; and that witnesses cannot be secured in this country to take their place, Mr. De Ferranti being the inventor and necessarily an important witness, Mr. Adam being the English attorney to whom his original disclosure was made, and Mr. Stoney being a particularly important witness by reason of his relations with Mr. Parsons, the great steam turbine inventor, and by reason of his long and extensive experience in both the turbine and electric welding arts.

JAMES M. SPEAR.

Sworn to and subscribed before me this 16th day of April, 1917.
(Seal) EDW. L. TOLSON,
JMS/HLD. Notary Public.

Receipt for Registered Article No. 191,861. Class postage 1.
Washington (F Street Sta.) D. C. Registered Apr. 17, 1917.
Postmaster, Per Proctor.

Docket Clerk
Apr. 20, 1917.
U. S. Patent Office.

36,709—88.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE NO. 36,709.

BRIEF FOR HARMATTA IN OPPOSITION TO THE MOTION OF
DE FERRANTI FOR LEAVE TO TAKE TESTIMONY ABROAD.

This is a motion brought by de Ferranti under Rule 158 for leave to take testimony in London, England.

The showing of the accompanying motion is insufficient to warrant the granting of the same. As to the requirements specified in Clause (a) of the Rule the motion sets forth no sufficient grounds on which is based the belief that the witnesses will testify in the manner set forth in the motion. All that is said is that the deponent Spear believes the witnesses will so testify by reason of information to this effect received by his firm from said parties.

As to the requirements of Clause (b) of the Rule, there is no showing of facts from which it can be concluded that the testimony cannot be taken in this country at all or that it cannot be taken here without hardship and injury to the moving party greatly exceeding that to which the party Harmatta would be exposed by the taking of such testimony abroad. In place of such showing of facts the motion paper substitutes a mere statement of James M. Spear that he believes that the parties whose testimony it is desired to take cannot leave England. As to the matter of comparative hardship no showing seems to be made whatever.

Upon the general merits of the motion we call attention to the fact that the evidence which it is desired to take is simply in the nature of expert or opinion evidence of persons residing abroad to be adduced in rebuttal of expert or opinion evidence given on behalf of Harmatta in this country and by witnesses residing in this country.

The aid of Rule 158 is thus invoked by de Ferranti for a purpose entirely foreign to the intent of said Rule. This Rule was the outgrowth of the decision of Commissioner Paine in the case of Laurer vs. Crowell, et al., C. D. 1879, page 177. That case and many subsequent cases, among them Parkin & Wright vs. Jenness, C. D. 1893, page 64; Smith vs. Barger, C. D. 1875, page 1; Green

vs. Hall vs. Siemens vs. Fields, C. D. 1889, page 110, show clearly that the only purpose of this Rule was to permit testimony to be taken abroad as to foreign publications or patents by which a date of invention under the Patent Statutes could be established, or for the purpose of showing some one of the contestants is not the original inventor. It was never intended by this Rule to put it into the power of a contestant in the United States Patent Office to go abroad for expert or opinion evidence, certainly not in the case of so widely known an art as that involved in the present controversy and, under the protection of said Rule, to subject his opponent to the recognized hardship and disadvantage of having to meet the case prepared in advance abroad and to cross-examine witnesses on a case so prepared under the disadvantages of the procedure now invoked.

It is unbelievable that witnesses competent to give expert and opinion evidence upon the subjects of electric welding and turbine construction do not exist in this country and there is no more reason for taking expert and opinion evidence abroad in this case than there would be in any of the numerous cases coming before the Patent Office for adjudication and wherein evidence of that nature can be properly used. To permit the Rule 158 to be used for any such purpose as is here proposed would open the door to contestants to gravely harass opponents and should not be permitted in any case and certainly not in a case such as the present and upon any such showing as is herein made.

As to the particular witnesses which it is proposed to call and the particular nature of their testimony, it may be said that what the writer of the provisional specification may think that he meant or may now say that he meant is not competent or material evidence to establish what the specification actually means as a publication and disclosure to the ordinary reader of the same. Anything that the writer might say as to the meaning of the specification to a third party reading the same is no more competent or material than would be the evidence of anyone of thousands of specification writers in this country.

Indeed the testimony of the attorney would be of much less weight and importance than that of some other person because his testimony would be tinged by the fact that he wrote the specification and may have had certain ideas in mind which were not expressed in a way to disclose the thought.

That de Ferranti produced a weld in the manner claimed in the motion would not be competent or material testimony as it would be simply evidence of what the inventor did abroad and would not support the claim of disclosure by patent or publication. The remaining testimony which it is proposed to take is clearly in the nature of expert or opinion evidence which could just as well be taken in this country.

As to Mr. de Ferranti, any testimony that he may give as to the nature of the disclosure made by the publication can borrow no effect or value from the fact that he is the alleged inventor.

As to Mr. Adam, the fact that he was attorney for Mr. de Ferranti similarly can give no weight or effect to testimony as to the nature of the disclosure beyond what would attach to the testimony of any other patent attorney and as before stated would be even of less weight. It does not appear even that Mr. Adam is possessed of special expert knowledge but even if he were expert in the art to which the invention relates, that fact establishes no warrant for the taking of testimony of the nature proposed abroad.

The expert opinion evidence which it is desired to produce through Mr. Stoney is of the same nature which anyone of numerous experts in this country would be able to give did the facts warrant it.

The rule permitting testimony to be taken in foreign countries was only framed to meet exceptional cases in which it was necessary to prove the facts of invention by witnesses residing abroad and with whom sole knowledge of the facts necessarily lay. It was not framed to permit a party to an interference to select witnesses living abroad in preference to witnesses living in this country to give expert opinion evidence and then to say that because the witnesses live abroad he should be permitted to produce their evidence under the Rule 158 in preference to evidence of the same nature which could be as well obtained in this country.

Respectfully submitted,

TOWNSEND & DECKER,

Attorneys for Harmatta.

New York, April 19th, 1917.

Docket Clerk.

April 17, 1917.

U. S. Patent Office.

Mail Room.

April 17, 1917.

U. S. Patent Office.

36,709—89

UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

MOTION ON BEHALF OF DE FERRANTI FOR EXTENSION OF TIME
TO TAKE REBUTTAL TESTIMONY.

BRIEF FOR HARMATTA.

It appears from the affidavit of James M. Spear attached to the motion papers that further time is desired by de Ferranti in order

that testimony may be taken abroad. The motion seems to proceed upon the assumption that leave has been or will be granted pursuant to Rule 158 of the Rules of Practice permitting testimony to be taken in foreign countries upon the showing the precise character of which is fully set forth in the Rule. No such showing and motion have been made and granted and until the granting of such a motion the filing of interrogatories is not permitted. As stated in *Raffard vs. de Ferranti*, 60 O. G. 439:

"Rule 158, under which a suitor before this Office may secure and introduce evidence taken in foreign countries, is precise in its terms and points out a definite and specific mode of procedure. It directs that after a petitioner has presented his motion and secured permission to take such testimony interrogatories must be filed within a limited time, and cross-interrogatories, also, if the opposing party shall elect to question the witness. This is the natural and prescribed way of proceeding under the rule; but it is definitely provided that this procedure may be waived to the extent of permitting an oral examination *by stipulation of the parties*. There can be no doubt as to the meaning of this, and there is no question that a party seeking the protection of the rule is entitled to all the privileges which it guarantees in terms. Plainly, nothing short of the mutual assent of all the interested parties can avoid its strict letter."

In view of the status of the present case and the long time that has elapsed since Harmatta completed his testimony, it is submitted that further time should be granted to de Ferranti only for the express purpose of permitting him to bring a motion under Rule 158. If, and only when such motion is granted can the motion for further time to take testimony be properly entertained. It is submitted that any extension of Ferranti's time should be made conditional upon his promptly bringing and prosecuting a motion under Rule 158.

Respectfully,
TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, April 16th, 1917.

LBF

2-224

Paper No. 90.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

April 28, 1917.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

6-1652

This case is before me for consideration of the following motions by De Ferranti:

1. A motion for permission to take testimony abroad, filed April 17, 1917.

2. A motion for an extension of time in which to take rebuttal testimony, filed April 16, 1917.

Motion to Take Testimony Abroad: The testimony which the moving party intends to take, should this motion be granted, is said to consist entirely of the depositions of De Ferranti himself, the patent attorney who prepared the specification for his British application, and a single other witness, expert in the art to which the invention relates. The avowed purpose of all this testimony is to explain the meaning or intended meaning of the disclosure in the provisional specification forming a part of the British patent relied upon by De Ferranti as a constructive reduction to practice of the invention and to demonstrate how said disclosure differs from the prior art and corresponds to the process defined in the issue herein. By this means De Ferranti seeks to rebut attacks upon his British patent by certain experts who, testifying on behalf of his opponent, expressed the opinion that the De Ferranti British provisional specification relates to a method of welding distinctly different from that in issue, and which method was old in the art at the time the provisional specification was filed.

The necessity for taking the testimony of the proposed witnesses is not apparent. Statements by De Ferranti or his former attorney as to what De Ferranti intended to disclose in his provisional specification would, of course, have no value. The specification must speak for itself. Nor would it seem to be necessary to go abroad for expert testimony which presumably could be obtained in this country. As a matter of fact De Ferranti has already taken and filed the testimony of one expert covering the very matters concerning which he desires to take further expert testimony abroad. Testimony of the sort proposed is, moreover, of doubtful value in the determination of the question to which it is directed, namely, the sufficiency of the provisional specification of De Ferranti's British patent as a disclosure of the invention. The testimony of experts as to the meaning of the issue or in explanation of the contents of an application is ordinarily not desired or permitted (*Ricketts vs. Ambruster & Beck*, 144 O. G., 276; *Von Keller vs. Hayden vs. Kruh vs. Jackson*, 173 O. G., 285; *Cooper vs. Downing*, 222 O. G., 727). Whether or not the aforesaid provisional specification discloses the invention can apparently be determined from a consideration of the specification itself, without the aid of testimony. If De Ferranti considers that the testimony taken by Harmatta is improper, his course would seem to be to attempt to secure its suppression. Or, if he prefers to let such testimony stand and to endeavor to rebut it, his efforts in that direction would not apparently be prejudiced or unduly restricted by confining his rebuttal testimony to the depositions of experts in this country, of which he has in fact already availed himself. The showing does not require or justify the taking of testimony abroad, as proposed in the motion.

Motion to Extend Time: This motion asks that De Ferranti's rebuttal time be extended to cover the taking of rebuttal testimony abroad, as set out in his other motion. The showing in support of the extension relates only to the additional time necessary for the taking of such testimony. Inasmuch as De Ferranti will not be permitted to take testimony abroad, no reason is advanced that would render an extension of time necessary.

The motion to take testimony abroad is denied.

The motion to extend time for rebuttal testimony is denied.

Limit of appeal from denial of motion to take testimony: May 7, 1917.

The taking of testimony is suspended.

H. E. STAUFFER.

Defendant's Exhibit No. 33.

707

Application Room.

Intf. No. 36,709.

Paper No. 91.

May 2, 1917.

U. S. Patent Office.

Docket Clerk.

May 3, 1917.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

S. Z. DE FERRANTI

vs.

HARMATTA.

INTERFERENCE NO. 36,709.

APPEAL.

Appeal is hereby taken to the Honorable Commissioner of Patents from the decision of the Examiner of Interferences denying the motion for permission to take testimony abroad and for an extension of time in which to take rebuttal testimony. In support of the motion it is alleged that the Examiner erred in holding that the necessity for taking the testimony of the proposed witnesses is not apparent; that he erred in holding that statements by De Ferranti or his former Attorney would not have any value; that he erred in not holding that in view of the fact that this invention was made abroad and the further fact that the affidavit supporting the motion shows the proposed witnesses to have had long experience and special knowledge in this particular art would make their evidence material and important and of a character that would not be procured in this country; that he erred in not granting the motion for permission to take testimony abroad and finally that he erred in not granting an extension of time in which to take such rebuttal testimony.

Respectfully,

S. Z. DE FERRANTI.

By SPEAR, MIDDLETON, DONALDSON & SPEAR,

May 1, 1917.

Attorneys.

JMS/BIB

1700

708

Defendant's Exhibit No. 33.

EEG

2—201

Paper No. 92.

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

WASHINGTON,

May 4, 1917.

Sir:

The case of

DE FERRANTI

vs.

HARMATTA.

APPEAL ON MOTION.

Intf. No. 36,709 will be heard by the Commissioner on the 25th day of May, 1917.

The hearings will commence at ten o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 144.

Respectfully,

THOMAS EWING,
Commissioner of Patents.

To S. Z. De Ferranti,

c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

To J. Harmatta,

c/o Townsend & Decker,
149 Broadway, New York City.

Docket Clerk.
May 25, 1917.
U. S. Patent Office.

Intf. No. 36,709. Paper No 93.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE COMMISSIONER OF PATENTS

ON APPEAL BY DE FERRANTI.

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

BRIEF FOR HARMATTA IN OPPOSITION.

De Ferranti's appeal is taken from the decision of the Examiner of Interferences rendered April 28th 1917 refusing to grant de Ferranti's motion filed April 17th 1917, under Rule 158, for leave to take testimony in London, England.

The brief filed by the party Harmatta in opposition to the grant of that motion and filed at the hearing before the Examiner of Interferences fully sets forth the party Harmatta's reasons as to why the motion should not be granted, said arguments being substantially reproduced herein.

The showing of the motion is insufficient to warrant the granting of the same. As to the requirements specified in Clause (a) of the Rule the motion sets forth no sufficient grounds on which is based the belief that the witnesses will testify in the manner set forth in the motion. All that is said is that the deponent Spear believes the witnesses will so testify by reason of information to this effect received by his firm from said parties.

As to the requirements of Clause (b) of the Rule, there is no showing of facts from which it can be concluded that the testimony cannot be taken in this country at all or that it cannot be taken here without hardship and injury to the moving party greatly exceeding that to which the party Harmatta would be exposed by the taking of such testimony abroad. In place of such showing of facts the motion paper substitutes a mere statement of James M. Spear that he believes that the parties whose testimony it is desired to take cannot leave England. As to the matter of comparative hardship no showing seems to be made whatever.

Upon the general merits of the motion we call attention to the fact that the evidence which it is desired to take is simply in the nature of expert or opinion evidence of persons residing abroad to be adduced in rebuttal of expert or opinion evidence given on behalf of Harmatta in this country and by witnesses residing in this country.

The aid of Rule 158 is thus invoked by de Ferranti for a purpose entirely foreign to the intent of said Rule. This Rule was the

outgrowth of the decision of Commissioner Paine in the case of *Lauder vs. Crowell, et al.*, C. D. 1879, page 177. That case and many subsequent cases, among them *Parkin & Wright vs. Jenness*, C. D. 1893, page 64; *Smith vs. Barker*, C. D. 1875, page 1; *Green vs. Hall vs. Siemens vs. Fields*, C. D. 1889, page 110, show clearly that the only purpose of this Rule was to permit testimony to be taken abroad as to foreign publications or patents by which a date of invention under the Patent Statutes could be established, or for the purpose of showing some one of the contestants is not the original inventor. It was never intended by this Rule to put it into the power of a contestant in the United States Patent Office to go abroad for expert or opinion evidence, certainly not in the case of so widely known an art as that involved in the present controversy and, under the protection of said Rule, to subject his opponent to the recognized hardship and disadvantage of having to meet the case prepared in advance abroad and to cross-examine witnesses on a case so prepared under the disadvantages of the procedure now invoked.

It is unbelievable that witnesses to give expert and opinion evidence upon the subjects of electric welding and turbine construction do not exist in this country and there is no more reason for taking expert and opinion evidence abroad in this case than there would be in any of the numerous cases coming before the Patent Office for adjudication and wherein evidence of that nature can be properly used. To permit the Rule 158 to be used for any such purpose as is there proposed would open the door to contestants to gravely harass opponents and should not be permitted in any case and clearly not in a case such as the present and upon any such showing as is herein made.

As to the particular witnesses which it is proposed to call and the particular nature of their testimony, it may be said that what the writer of the provisional specification may think that he meant or may now say that he meant is not competent or material evidence to establish what the specification actually means as a publication and disclosure to the ordinary reader of the same. Anything that the writer might say as to the meaning of the specification to a third party reading the same is no more competent or material than would be the evidence of anyone of thousands of specification writers in this country.

Indeed the testimony of the attorney would be of much less weight and importance than that of some other person because his testimony would be tinged by the fact that he wrote the specification and may have had certain ideas in mind which were not expressed in a way to disclose the thought.

That de Ferranti produced a weld in the manner claimed in the motion would not be competent or material testimony as it would be simply evidence of what the inventor did abroad and would not support the claim of disclosure by patent or publication. The remaining testimony which it is proposed to take is clearly in the na-

ture of expert or opinion evidence which could just as well be taken in this country.

As to Mr. de Ferranti, any testimony that he may give as to the nature of the disclosure made by the publication can borrow no effect or value from the fact that he is the alleged inventor.

As to Mr. Adam, the fact that he was attorney for Mr. de Ferranti similarly can give no weight or effect to testimony as to the nature of the disclosure beyond what would attach to the testimony of any other patent attorney and as before stated would be even of less weight. It does not appear even that Mr. Adam is possessed of special expert knowledge but even if he were expert in the art to which the invention relates, that fact establishes no warrant for the taking of testimony of the nature proposed abroad.

The expert opinion evidence which it is desired to produce through Mr. Stoney is of the same nature which anyone of numerous experts in this country would be able to give did the facts warrant it.

The rule permitting testimony to be taken in foreign countries was only framed to meet exceptional cases in which it was necessary to prove the facts of invention by witnesses residing abroad and with whom sole knowledge of the facts necessarily lay. It was not framed to permit a party to an interference to select witnesses living abroad in preference to witnesses living in this country to give expert opinion evidence and then to say that because the witnesses live abroad he should be permitted to produce their evidence under the Rule 158 in preference to evidence of the same nature which could be as well obtained in this country.

It is therefore contended that the Examiner was right in his decision in denying the motion and that the present appeal should also be denied.

Respectfully submitted,

TOWNSEND & DECKER,
Attorneys for Harmatta.

New York, May 24th, 1917.

Recorded Vol. 123, p. 97.
Hearing: May 25, 1917.

Intf. No. 36,709.

Paper No. 94.
SET

IN THE UNITED STATES PATENT OFFICE.

DE FERRANTI

vs.

HARMATTA.

PATENT INTERFERENCE NO. 36,709.

APPEAL ON MOTION.

ELECTRIC WELDING.

Application of Sebastian Z. de Ferranti filed Dec. 29, 1911, No. 668,464, division of application filed May 14, 1904.

Patent granted Johann Harmatta Dec. 3, 1912, No. 1,046,066, on application filed Dec. 3, 1903.

MESSRS. SPEAR, MIDDLETON, DONALDSON & SPEAR, for de Ferranti.

MESSRS. TOWNSEND & DECKER for Harmatta.

This is an appeal by de Ferranti from the decision of the examiner of interferences denying his motion to take testimony abroad.

It appears that de Ferranti relies upon a British application and that in his testimony in chief a copy of this application was introduced in evidence, and that thereafter testimony was taken on behalf of Harmatta for the purpose of showing that the invention in issue is not disclosed in the British provision specification. Permission was then sought to take the testimony of de Ferranti, Stoney, and Adam, it being stated that it was expected to prove by de Ferranti and Adam that de Ferranti had actually produced a weld between the blade and the carrier which did not extend over the whole surface of the turbine blade, and that the welding of the blades in isolated spots is not inconsistent with the requirement of "due mechanical strength" mentioned in the provisional specification, and that the witness Stoney would produce sketches made by him from the disclosure of the de Ferranti provisional specification only, and explain how and why this is spot welding as distinguished from blade welding.

At the hearing on this appeal the motion was withdrawn in so far as it asked to take the testimony of Adam, who is the English attorney to whom de Ferranti's original disclosure is said to have been made.

No error is found in the holding of the examiner of interferences denying the motion. Any work done by de Ferranti in England is immaterial to the question of priority. The question for consideration is what the original specification discloses. It is not seen that the fact that de Ferranti may have made welds in a certain way in any way establishes that that method is disclosed in the provisional specification. De Ferranti has already introduced the testimony of an expert in support of his contention that the invention is disclosed in the provisional specification, and it would seem that if any other further expert testimony was necessary, it could have been obtained from an expert in this country.

The decision of the examiner of interferences is affirmed.

R. F. WHITEHEAD,
First Assistant Commissioner.

May 29, 1917.

Defendant's Exhibit No. 33.

1705
713

EEG

Letter No. 95.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

May 29, 1917.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE NO. 36,709.

APPEAL ON MOTION.

Sir:

Please find enclosed herewith a copy of a decision of the First Assistant Commissioner, dated May 29, 1917, in the above entitled case.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F.

S. Z. de Ferranti,
c/o Spear, Middleton, Donaldson & Spear,
Washington, D. C.

I. Harmatta,
c/o Townsend & Decker,
149 Broadway, New York City.

LBF

2—224

Paper No. 96.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

June 7, 1917

Mailed " " "
Interference Division

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

6—1652

THOMAS EWING,
Commissioner of Patents.

Proceedings are resumed in the above entitled case and the time
for final hearing is set for August 7, 1917, at 11 A. M.

H. E. STAUFFER,
Examiner of Interferences

FOR PAPER NO. 97 SEE INDEX.

W. F.

2—208.

36,709—98.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON,

June 29, 1917.

BEFORE THE EXAMINER OF INTERFERENCES.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

Sir:

You are hereby informed that the printed record in behalf of
Sebastian Ziani de Ferranti has been received and filed.

By direction of the Commissioner:

Very respectfully,

6—1962.

W. F. WOOLARD,
Chief Clerk.

Sebastian Ziani de Ferranti,

c/o Spear, Middleton, Donaldson & Spear,

Washington, D. C.

Docket Clerk.

July 7, 1917.

U. S. Patent Office.

36,709-99.

IN THE UNITED STATES PATENT OFFICE.

S. Z. DE FERRANTI

vs.

JOHANN HARMATTA.

INTERFERENCE NO. 36,709.

STIPULATION.

It is hereby stipulated by and between the parties hereto that the hearing before the Honorable Examiner of Interferences be postponed for approximately one month.

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for S. Z. De Ferranti.

TOWNSEND & DECKER,

Attorneys for Johann Harmatta.

July 3rd, 1917.

WFH/HLD.

JHD

2-224

Paper No. 100.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

July 9, 1917.

Mailed " " "

Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

THOMAS EWING,

Commissioner of Patents.

6-1652

The stipulation filed July 7, 1917, is approved, and in accordance with the provisions thereof, the time for final hearing in this case is extended to September 7, 1917, at 11 A. M.

H. E. STAUFFER,

Examiner of Interferences.

FOR PAPER NO. 101 SEE INDEX.

W. F.

2—208

36,709—102.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

July 13, 1917.

BEFORE THE EXAMINER OF INTERFERENCES.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

No. 36,709.

Sir:

You are hereby informed that the printed record in behalf of
Johann Harmatta has been received and filed.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

6—1962

Johann Harmatta,

c/o Townsend & Decker,

149 Broadway, New York, N. Y.

EEG

36,709. Letter No. 103.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON,

July 19, 1917.

In the Matter of the Interference of

DE FERRANTI

vs.

HARMATTA.

INTERFERENCE No. 36,709.

Sir:

It is noted that Melville Church, of Washington, D. C., has been
appointed associate attorney for Spear, Middleton, Donaldson &
Spear, in the above entitled case.

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
J.

J. Harmatta,

c/o Townsend & Decker,

149 Broadway, New York City.

Mail Room.

36,709—104.

July 24, 1917.

U. S. Patent Office.

Docket Clerk.

July 24, 1917.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

In re: Interference

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

New York, July 19th, 1917.

Messrs. Spear, Middleton, Donaldson & Spear,

Victor Building, Washington, D. C.

Sirs:

PLEASE TAKE NOTICE that on Thursday, the 26th day of July, 1917, at 10 o'clock a. m., or as soon thereafter as counsel may be heard, before the Examiner of Interferences, we shall present the accompanying motion for judgment in favor of Harmatta in the above-entitled interference for his determination and shall also move for a stay of proceedings pending the final determination of said motion.

TOWNSEND & DECKER.

Attorneys for Harmatta.

Due service acknowledged this 20th day of July, 1917

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for De Ferranti.

Docket Clerk.

July 24, 1917.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

In re: Interference

SEBASTIAN ZIANI DE FERRANTI

vs.

JOHANN HARMATTA.

No. 36,709.

MOTION FOR JUDGMENT.

NOW COMES JOHANN HARMATTA by his duly authorized attorneys and moves that judgment on the ex parte records of the parties hereto and in view of the Rietzel patent No. 928,701,

one Rietzel, No. 928,701, and the decisions of the Court of Appeals of the District of Columbia in *in re Fritts*, 227, O. G., 742, and *Rowntree vs. Sloan*, 227 O. G., 744.

Reference to the file shows that the final hearing on the merits is now set for September 7, 1917. All the testimony has been taken and the printed records of the respective parties are on file. It would in my judgment be clearly better to have this question raised at the time fixed for the final hearing on the merits, at which time all grounds for decision may be properly presented and discussed.

The motion is denied with the right to renew the same at the final hearing.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
August 21, 1917.
U. S. Patent Office.

36,709—107.

IN THE UNITED STATES PATENT OFFICE.

INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

("M" in margin.)

It is hereby stipulated and agreed that the final hearing in the above entitled case be postponed to October 15th 1917 or as soon thereafter as convenient to be set. This postponement is requested particularly by counsel for de Ferranti in view of engagements on Court cases which will take the entire month of September.

TOWNSEND & DECKER,

Attorneys for Harmatta.

SPEAR, MIDDLETON, DONALDSON & SPEAR,

Attorneys for De Ferranti.

IAW

2—224.

Paper No. 108.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.

August 28, 1917.
U. S. Patent Office,
Interference Division.
Aug. 28, 1917, Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 36,709.

DE FERRANTI

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

R. F. WHITEHEAD,

6—1652

Acting Commissioner of Patents.

The stipulation filed herein August 21, 1917, is approved and in accordance therewith the time for final hearing is hereby continued to October 16, 1917, at 11 A. M.

J. W. MILBURN,

Acting Examiner of Interferences.

DE FERRANTI

vs.

HARMATTA.

- | | | |
|-----|--------------|--|
| 1. | Oct. 7, 1913 | Declaration. Statements due Dec. 1/13. |
| 2. | Nov. 8, " | Registry return receipt. |
| 3. | " 26, " | Statement of Harmatta |
| 4. | " " " | Letter to " |
| 5. | " " " | Statement of de Ferranti |
| 6. | " 28, " | Letter to " |
| 7. | Dec. 5, " | Testimony set—F. H. June 23/14. |
| 8. | " 11, " | Power of Atty of Assignee of Patentee Harmatta |
| 9. | " 12, " | Notice of Change of Atty |
| 10. | " 31, " | Petition by Harmatta for certified of Appln. of de Ferranti S. No. 208,034 |

11. Jan. 2, " Notice of hearing.
12. Jan. 3, 1914 Stipulation to extend time for Motions
13. " 5, " Times extended. F. H. July 20/14.
14. " 31/14 Stipulation to extend time for Motions
15. Feb. 2, " Commr's decision
16. " " " Notice of "
17. " 3/14 Times extended. F. H. Aug. 19/14.
18. Feb. 27/14 Stipulation to extend time for Motions
19. Feb. 28/14 Times extended. F. H. Sept. 22, 1914.
20. Mch. 31/14 Stipulation to extend time for Motions
21. Apr. 1/14 Times extended. F. H. Oct. 21/14.
22. May 4/14 Motion to dissolve by Harmatta
23. " 6, " Motion to dissolve by Harmatta denied trans-
mission. L. A. May 16/14. Test'y susp'd.
24. " 16 " Appeal by Harmatta on Motion
25. " " " Notice of hearing
26. " 28, " Brief for Harmatta
27. June 5, " Commr's decision
28. " " " Notice of "
29. " 9, " Proceedings resumed. Testy reset. F. H.
Nov. 25/14
30. " 10/14 Amended Motion to dissolve by Harmatta.
31. June 18/14 Amended motion to dissolve by Harmatta
transmitted Test'y susp'd.
32. " 19, " Notice of hrg by Law Exr
33. July 16/14 Stipulation to extend time for hrg on Motion
34. " 21/14 Notice of Hy'g. by Law Exr.
35. Aug. 26/14 Stipulation to postpone hrg by Law Exr
36. " 27, " Notice of Change of Hrg. by Law Exr
37. Sept. 29/14 Stipulation to postpone hearing by Law Ex-
aminer
38. " 30, " Notice of postponement of hrg by Law Exr
39. Nov. 12/14 Brief for de Ferranti
40. Dec 1/14 Decision of Law Examiner No. L. A.
41. " " " Notice of decision
42. " 3/14 Proceedings resumed. Testy reset. F. H.
May 18/15.
43. " 12, " Motion for Rehr by Law Exr by Harmatta
44. " 15, " Decision of Law Ex'r Rehr denied
45. " " " Notice of Decision
46. Jan. 26/15 Stipulation to extend time for testy
47. " 27/15 Times extended. F. H. June 16/15.
48. Mch. 2/15 Stipulation to extend time for testy
49. " 3/15 Times extended. F. H. July 1/15.
50. Mch. 17/15 Stipulation to extend time for testy
51. " 18/15 Times extended F. H. July 20/15.
52. Mch. 25, " Stipulation to extend time for testy
53. " 26/15 Times extended. F. H. Aug 17/15.
54. Apr. 27, " Stipulation to extend time for testy
55. " 28/15 Times extended. H. H. Sept. 2/15

56. May 17, 1915 Stipulated testy for de Ferranti
57. " 18, " Receipt of stipulation & copy of patent acknowledged.
58. June 15, " Stipulation to extend time for testy
59. " 17, " Times extended. F. H. Nov. 2/15.
60. Aug. 12/15 Stipulation to extend time for testy (and Affidavits)
31. Aug. 13/15 Times extended. F. H. Jan'y. 4/16.
32. Oct. 11, " Stipulation to extend time for testy
33. " " " Letter from Atty for Harmatta
34. Oct. 12/15 Times extended. F. H. Feb. 3/16.
35. " 28, " Motion to dissolve by Harmatta
36. Nov. 6/1915 Motion to dissolve denied transmission. L. A. Nov. 17/1915. Testimony suspended
37. " 16, " Appeal by Harmatta on Motion
38. " 19, " Notice of hearing
39. Dec. 2, " Brief for Harmatta
40. " " " Commr's decision (paper #37)
41. " 3, " Notice of decision
42. " 6, " Letter from Harmatta
43. " " " Supplemental decision by Commr (paper #37)
44. " " " Notice of decision
45. " 7, " Notice of hr'g by Law Exr
46. " 8, " Petition by de Ferranti for rehearing
47. " 15, " Authority to Inspect
48. " 29, " Commr's decision (paper #46)
49. " 30, " Notice of "
50. Jany. 5/16 Brief for Harmatta
51. " 19, " Decision of Law Exr
52. " 20, " Notice of decision
53. Jan. 22/16 Proceedings resumed. Testy set. F. H. July 11/16.
54. " 26, " Petition by Harmatta that Commr. exercise supervising authority
- 54 1/2. " " " Brief for de Ferranti
55. " 28, " Commr's decision (paper #54)
56. " 29, " Notice of decision
57. April 15/16 Testimony for Harmatta (2 batches)
58. " " " Letter to "
59. " 17, " Stipulation to Extend time for rebuttal testy of de Ferranti
60. April 19/16 Times extended. F. Hr'g. August 9/16
61. June 2, 1916 Motion to Strike out or Suppress by De Ferranti
62. June 7/16 Action on motion to strike out deferred until F. H. Times extended. F. H. Sept. 8/16.
63. July 6, " Stipulation to extend time for testy
64. " 7, " Times extended. F. H. Oct. 10/16.
65. Aug. 7/16 Stipulation to extend time for testy.

- 66. Aug. 9/16 Times extended. F. H. Dec. 12/16
- 67. Oct. 7, 1916 Stipulation to extend time for rebuttal testy
& F. Hrg
- 68. " 9, " Times extended. F. H. Jan. 9/17.
- 69. Nov. 14/16 Affidavit for de Ferranti (see paper 67)
- 70. " 22/16 Testimony & Exhibits for de Ferranti (in
box)
- 71. " 23 " Letter to
- 72. " 25, " Motion by Harmatta to strike out testy
- 73. Nov. 28/16 Hearing on motion to strike out set for Dec.
4/16.
- 74. Dec. 4/16 Action on motion by Harmatta deferred until
Final Hrg.
- 75. " 12, " Stipulation to Extend time for rebuttal testy
- 76. Dec. 14/16 Times extended. F. Hrg. March 20/17.
- 77. Jan. 3/17 Stipulation to extend time for rebuttal testy
- 78. " 15/17 Times extended. F. H. May 17/17.
- 79. Feb. 14/17 Stipulation to extend time for rebuttal testy
- 80. " 15/17 Times extended. F. H. May 17/17.
- 81. " 21, " Authority to Inspect
- 82. Mch. 2/17 Authority to Inspect
- 83. " 19/17 Stipulation to Extend time for testy
- 84. " 21/17 Times extended. F. H. June 19/17.
- 85. Apr. 5/17 Authority to Inspect
- 86. " 16, " Motion by De Ferranti to extend time for
- 87. " 17, " testy.
- 88. " 20, " Motion by De Ferranti for leave to take testy
abroad
- 89. " 17, " Brief for Harmatta in Opposition to Motion
- 90. Apr. 28/17 Brief for Harmatta.
- 91. May 2, 1917 Motion to take testy abroad is denied Motion
to extend time for rebuttal denied L. A.
May 7/17. Testimony susp'd.
- 92. " 4, " Appeal by de Ferranti on Motion
- 93. " 25, " Notice of hearing
- 94. " 29, " Brief for Harmatta
- 95. " " " Commr's decision
- 96. June 7/17 Notice of decision
- 97. " 28, " Proceedings resumed F. H. Aug. 7/17
- 98. " 29, " Printed record for de Ferranti (31 copies)
- 99. July 7/17 Letter to
- 100. July 9/17 Stipulation to postpone F. Hr'g
- 101. " 12, " Final Hearing extended to Sept. 7/17.
- 102. " 13, " Printed record for Harmatta (31 copies)
- 103. " 19, " Letter to
- 104. " 24, " Notice of Appt of Ass'o Atty
- 105. " 26, " Motion for Judgt by Harmatta
- 106. July 27/17 Brief for De Ferranti
- 106. July 27/17 Motion for judgment by Harmatta denied

Defendant's Exhibit No. 33.

725

107. Aug. 21/1917 Stipulation to extend time for F. Hg.
108. " 28, " Final hearing extended to Oct. 16/17.
109.
110.
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120.

ATTORNEYS.

Sebastian Ziani de Ferranti
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149 Broadway
New York, N. Y.



3-302

UNITED STATES OF AMERICA,

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

To all whom these presents shall come, Greeting:

THAT I DO CERTIFY that the annexed is a true copy from the
Records of this Office of the File Wrapper and Contents in the
matter of

Letters Patent of

Adolph F. Rietzel, Assignor to
Thomson Electric Welding Company,

Number 928,701,

Granted July 20, 1909.

for

Improvement in Uniting the Component Parts of Composite Sheet-Metal
Structures.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 4th day
of August, in the year of our Lord one
thousand nine hundred and seventeen and of
the Independence of the United States of America the
one hundred and forty-second.

Thomas E. ...
Commissioner of Patents

1720

2-487

NUMBER (SERIES OF 19 00).

247,081

1905

DIV 37

48

PATENT No. 928701

(EX'R'S BOOK).75 -48-

1-18--

Name Adolph F. Rietzel,

Assor to Thomson Electric Welding Company, of Lynn, Massachusetts,
a coporation of Maine.

of Lynn.

County of

State of Massachusetts.

Invention Method of Electric Welding.

ORIGINAL.

RENEWED.

PARTS OF APPLICATION FILED.	Petition	Feb. 24	, 19 05.	, 190
	Affidavit	" "	, 19 05.	, 190
	Specification	" "	, 19 05.	, 190
	Drawing	" "	, 19 05	, 190
	Model or Specimen		, 19 0	, 190
	First Fee Cash \$15.	Feb. 24	, 19 05	, 190
	" " Cert.		, 19 0	, 190
	Appl. filed complete	Feb 24	, 19 05	, 190
	Examined	A. P. Shaw Ex	June 24, 1909	, 190
	Countersigned	W. W. Mortimer		, 190
	For Commissioner.			
Notice of Allowance	June 24	, 19 09.	, 190	
Final Fee Cash \$20	June 24	, 19 09	, 190	
" " Cert.		, 19 0	, 190	
Patented	July	20	, 19 09	
Associate Attorney	Attorney Townsend & Decker			
	141 Broadway, N. Y. City,			

Disclaimer filed

June 12, 1915

Name

Serial Number

Patent No

Date of Patent

247,081

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DIVISION OF APP., RU.

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FEB 24 1905 Ck S
CHIEF CLERK U.S.PATENT OFFICE

(Printed letter head omitted.)

NEW YORK, Feb. 20th, 05. 190

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

Enclosed please find application papers and
drawings complete in the case of Adolph F. Rietzel for
method of electric welding, together with check of \$15.00
to cover the cost of the first Government Fee on the same.

Very respectfully,
Townsend & Decker

17223
MAIL ROOM
FEB 24 1908
U.S. PATENT OFFICE

Application.
Serial No. 247,081 Paper No. 1/2

PETITION.

To the Commissioner of Patents:

Your Petitioner Adolph F. Rietzel a citizen of the United States and a resident of Lynn in the County of Essex and State of Massachusetts with P. O. address, Lynn, Mass. prays that Letters Patent may be granted to him for the Method of Electric Welding set forth in the annexed specification; and he hereby appoints Henry C. Townsend and Delbert H. Decker, constituting the firm of Townsend & Decker, of the City of New York, 141 Broadway 8-Beekman-Street-(Temple-Court), his attorneys with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent Office connected therewith.

Adolph F. Rietzel

SPECIFICATION.

To all whom it may concern:

Be it known that I, Adolph F. Rietzel a citizen of the United States and a resident of Lynn in the County of Essex and State of Massachusetts with P. O. address, Lynn, Mass. have invented certain new and useful Improvement in Method-of-Electric Welding Uniting the Component Parts of Composite Sheet Metal Structures of which the following is a specification:

per
Sub.
Spec.

My invention relates to a method of forming an electrically welded union between the plane surface of a piece of metal and another piece of metal and is especially useful in uniting two plates or sheets of metal at their plane surfaces.

One of the special objects of the invention is to provide a method whereby a sheet of metal, especially in the thinner gages, may be united on its plane surface to another sheet or to any other piece of metal. For the sake of illustration, however, the process will be described as carried out in uniting two sheets or plates to one another for which purpose the invention is particularly useful. It is to be understood, however, that I do not limit myself to the process as applied to sheet or plate metal or to uniting two plates or sheets with one another, since the invention is also applicable to forming a welded union with a plane surface or contact surface of considerable area in a piece of metal of any form.

It is not practicable by the present process of electric welding to weld together two plates or sheets of metal on their plane surfaces, on account of the large area of surface contact between them, when laid one upon the other, which allows the welding current to pass without bringing them up to a welding heat.

My present invention consists essentially in providing over the surface to be welded, a number of contact spots or points through which the welding current is passed in multiple, and applying pressure in proper way to form a number of distinct electric welds or spots of union over said surface.

These contact spots act to localize the current and the heating to a welding temperature and may be provided either by casting, punching or indenting

1724

the metal of the plane surface with which the welded union is to be made, or otherwise forming the same so as to provide thereon a multiplicity of isolated projections, or said contact spots may be provided by disposing a number of small pieces of metal over said surface, which pieces become united with said surface and with the opposite piece or pieces of metal in the welding process.

Figures 1, 2, 3, 4 and 5 show pieces of metal of different forms interposed between the electrodes of an electric welding machine; figures 6, 7, 8 and 9 show modifications in the form and disposition of the isolated projections.

Fig. 10 shows 3 plates assembled for welding together.

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ct. 23. '06

Referring to figures 1, 2, 3, 4 and 5, the electrodes of an electric welding machine are indicated at A'. These electrodes, as usual in the art, supply heating current to the work interposed between them, and also preferably serve as the means through which welding pressure may be applied to the work while heated to welding temperature. In Fig. 1, piece B' is a plate or sheet of metal to be welded at its plane surface to an opposite plate or sheet B. In this figure the plate B' has a number of isolated contact spots c, which may be formed by indenting the plate and which projections engage directly with the opposite plate B.

In Fig. 2 both plates have projections which engage with one another, although, and as indicated in Fig. 10, each of the contact spots or projections c upon one plate might engage with the plane surface of the opposite plate.

In the operation of forming the weld, current is passed from one plate or piece to the other through the contact spots or projections c, raising the metal to welding temperature at such points, and the application of welding pressure in the usual manner forms spots of welded union

coincident with such points or projections and which firmly unite the pieces together. The contact points, spots or projections might be formed on either or both surfaces by casting the projections thereon which modification is indicated in Figures 3 and 4 wherein the pieces B B' are supposed to be cast metal plates or pieces.

In Fig. 1 and 2 the plates are supposed to be of sheet metal. These plates or projections may be formed, however, in any desired way upon the surface with which the welded union is to be made. Instead of providing contact spots consisting of projections from the plane surfaces themselves, they may be provided by interposing separate pieces of metal, c', as indicated in Fig. 5, which are disposed in any desired number, according to the number of points of union desired, over the plane surface with which the welded union is to be formed. These different spots or projections may take any desired form or be disposed in any desired relation to one another and to the boundaries of the surface with which the welded union is to be made.

As shown in Fig. 6 they may be rounded projections disposed near the edges of the plate or they may be somewhat elongated projections as shown in Fig. 7 and 8 and symmetrically or irregularly arranged as shown; as shown in Fig. 9, they may be a combination of round and elongated projections.

As will be obvious their form and disposition may be greatly varied, and as already stated, the manner of producing them is capable of indefinite variation.

Fig. 10 illustrates the welding of 3 plates or sheets together. The number can be extended indefinitely, and while ordinarily only two pieces would be welded at a time, more may be welded provided the current is sufficient.

My invention is of special utility in the manufacture

of articles from sheet metal which are stamped out to different forms, and which heretofore have been joined in a mechanical way requiring expensive dies and tools to produce the finished article. When my invention is employed in this field of manufacture, all that is necessary in order to provide for the union of the pieces is to form or provide the spots or projections in any desired way or in any convenient form on the surface to be united either by punching, indenting or otherwise forming them up or by providing isolated metal pieces as already described, and then to assemble the pieces to be united in an electric welding machine and weld them together as already described.

In some cases it may be sufficient to provide a single projection or spot if the same be sufficiently elongated, which will act, as it were, to localize the heating and welding.

What I claim as my invention is:-

1. The herein described method of welding a piece of metal at a plane surface thereof, consisting in providing a multiplicity of contact spots over said surface, passing a heating electric current over said spots simultaneously, and applying pressure to form a multiplicity of distinct electric welds over said plane surface.

2. The herein described method of welding sheets or plates of metal together on their plane surfaces, consisting in providing a multiplicity of contact points or spots between said surfaces, passing a heating electric current from one plate to the other through said points in multiple and applying pressure in a direction to form a number of points of welded union between said plates and sheets.

3. The herein described method of uniting plates sheets or other metal objects on their plane surfaces, consisting in providing such surface with a multiplicity of contact points or projections, passing a welding current through said projections in multiple and applying pressure to form a number of welds simultaneously at said points.

4. The herein described method of uniting a sheet of metal with another piece of metal consisting in indenting the sheet to form one or more projections from a plane surface thereof, passing a heating electric current through sheet and said projection or projections, and applying pressure to form one or more spots of welded union on such surface.

5. The herein described method of welding two plates or sheets of metal together consisting in indenting the material to form a number of projections from a plane surface thereof heating said projections to a welding temperature simultaneously and applying pressure in a direction perpendicular to said

plane surface to form a number of spots of welded union thereon.

6. The herein described method of welding two plates or sheets of metal together consisting in indenting the material to form a contact spot or spots on a plane surface thereof, superposing said plates or sheets, passing an electric current from one to the other through said contact spots and applying pressure to form a point or points of welded union at said spot or spots.

7. The herein described method of welding two plates or sheets of metal together, consisting in indenting ^{each} plate to form a projecting contact spot or spots on a plane surface of each plate, superposing said plates with the projecting spot or spots in engagement with one another, passing a heating electric current from one plate to the other and applying pressure to form a welded union between the plates at said spot or spots.

8. The herein described method of electrically welding a piece of metal at a plane surface thereof consisting in providing such plane surface with a current localizing projection, passing a heating current through such projection and applying pressure to unite said piece with another piece by a welded union coincident with such projection.

1729

Signed at Lynn in the County of Essex and State of
Mass. this 7th day of Feb. A. D. 1905

Adolph F. Rietzel

Witnesses:

Edwin W. Hawes }

F I Foster }

OATH.

Lynn Mass }

Essex Co. }

SS.:

Adolph F. Rietzel the above-named petitioner, being
duly sworn, deposes and says that he is a citizen of the
United States and resident of Lynn, Mass. and that he verily
believes himself to be the original, first and sole inventor
of the improvement in Method of Electric Welding described
and claimed in the annexed specification; that he does not
know and does not believe that the same was ever known or
used before his invention or discovery thereof; or patented
or described in any printed publication in the United States
of America or any foreign country before his invention or dis-
covery thereof or more than two years prior to this application;
or in public use or on sale in the United States for more than two
years prior to this application, and that no application for
foreign patent has been filed by him or his legal representatives
or assigns in any foreign country, except as follows:

Adolph F. Rietzel

Sworn to and subscribed before me this }
7th day of Feb. A. D. 1905 }

Wm H Bates

Notary Public.

1730

Div. 37 Room 415

2-360

Paper No. 1

Address only
The Commissioner of Patents,
Washington, D. C.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., April 12, 1905.
MAILED

Adolph F. Rietzel,

C/o Townsend & Decker,

141 Broadway,

New York, N. Y.

your

Please find below a communication from the EXAMINER in charge of the application of-

#247,081, filed Feb. 24, 1905, for Method of Electric Welding.

F. I. Allen

[Signature]

Commissioner of Patents

Claims 1, 2, 3, 4, 5, 6, 7 and 8 are rejected on Hunter,
690,958, Jan. 14, 1902, Metal heating and Working, Welding, Process-
es.

Claims 1, 2, 3 and 8 are also rejected on Robb, 434,468,
Aug. 19, 1890, or Moxham, 497,808, May 23, 1893, same class as
above. To provide the article to be welded with a plurality of
projections is a mere matter of duplication.

W.J.S.

A. F. Kinran Ex

1731

MAIL ROOM
OCT 18 1905
U.S. PATENT OFFICE

DIV. 37, PAPER NO. 2
Amendt A

New York, Oct. 17, 1905.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of Adolph F. Rietzel
for Method of Electric Welding, filed Feb. 24th, 1905, S. N.
247,081;

In reply to the Examiner's communication dated Apr.
12th, 1905, please amend as follows:

Erase beginning line 1, page 1, of the specification
to the end of line 7, page 2, and substitute:

My invention relates to the union of plates or sheets
of metal, especially in the thinner gages, face to face, and its
object is more particularly to provide an efficient and cheap
substitute for the methods heretofore employed for uniting pieces
of sheet metal face to face. Heretofore in sheet metal working
the usual way of fastening two pieces of sheet metal together
face to face has been by the employment of fastening screws or
bolts or by the use of tongues or projections on one sheet enter-
ing perforations or openings in the other sheet or plate and turn-
ed down or bent to lock the pieces together. Sometimes such
plates or sheets of metal have been united by riveting them to-
gether at points sufficient in number or sufficiently near to
one another to form a strong and effective means of clamping or
fastening the two pieces together.

My present invention provides for the union of plates
or sheets of metal together face to face by electric welding,
which as ordinarily practised, could not be used for the purpose
should it be attempted to unite the sheets together over their
whole plane surfaces on account of the large area of surface con-
tact which would exist if the plates were simply laid one upon the

other distinct modification of the form of the plane surface or without some means for restricting the extent of the welded union.

The present invention consists essentially in a welded union of two plates or sheets of metal made by electrically welding them together on their plane faces at a number or multiplicity of distinct or isolated points, which points of union are isolated spots, points or surfaces of union after the completion of the weld. The contact spots or points of union may be fixed or determined by either casting, punching or indenting the metal of the plane surface or otherwise forming the same ^{so} as to provide thereon a multiplicity of isolated projections, or said contact spots may be provided by disposing a number of small pieces of metal over said surface, which pieces become united with said surface and with the opposite piece or pieces of metal in the welding process."

Erase the claims and substitute:

- 1- Metal plates fastened together over their plane surfaces by a number of distinct isolated welds or unions.
- 2- The method of fastening plates of metal of any gage together by their plane surfaces, consisting in providing a multiplicity of contact spots over said surface, passing a heating electric current over said spots simultaneously, and applying pressure to simultaneously form a multiplicity of mechanically distinct electrically welded points of union on the plane surfaces presented to one another.
- 3- The herein described method of fastening two pieces of metal together, consisting in providing each plate with a number of projecting contact spots on its plane surface, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other through such spots, simultaneously

applying pressure and completing the process with the formation of a multiplicity of distinct points of welded union coincident with the spots of contact.

4- The method of fastening two plates of metal together consisting in providing between them a number of contact spots for passage of the electric current from one to the other by their plane surfaces, passing a heating electric current through such spots simultaneously, applying pressure and finishing the process with the formation of a multiplicity of points of union over the surfaces presented to one another, as and for the purpose described.

5- The herein described method of fastening two plates, consisting in indenting each plate to form a number of projecting contact spots on a plane surface of each plate, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other and applying pressure to form a multiplicity of points of welded union between the plates at said spot or spots.

Remarks.

There is a radical distinction between applicant's invention and that described in the Hunter combination, in which the purpose is primarily to form in the first place a union of sheets of metal end to end. Applicant's process in substance involves the union of two plates or sheets of metal face to face so as to fasten them together over practically their whole abutting faces. Further, however, the Hunter process involves not the union at a number of distinct points of weld, but as specifically set out, contemplates the melting of the metal so as to make a full transverse weld or as set out at line 68, "a simultaneous series of gradually-extending welds, which ultimately unite" This is a process, which of necessity, involves the formation of the contact spots originally in sufficiently close proximity to allow the welding to extend and merge the spots into one whole

1734

or full weld with necessarily a corresponding expenditure of power incident to the employment of spots in much greater number than is essential to applicant's process. Applicant's invention provides an efficient and cheap substitute for those methods of fastening plates of metal together which have heretofore been employed and which comprise essentially a number of points of mechanical attachment of one to the other by tongues, rivets or similar devices. The Hunter invention might at first blush seem to be of the same nature as applicant's, but when closely examined will be found to be similar only in the point that electric welding is used and that the welding is started over points of contact. This was not broadly new with Hunter as is shown to be the fact by the Robb patent. Applicant's invention is clearly differentiated from both Hunter and Robb in that the union is not formed over the whole cross sectional area of the pieces of metal or portions of pieces to which the welding pressure is applied.

The application has now fully been revised to limit it to the essential differences and it is hoped that a speedy allowance of the application may be had.

Respectfully submitted,

A. F. Rietzel

By Townsend & Decker

Attorneys.

1735

Div. 37 Room 107

2-200

Paper No. 3

Offices only
 "The Commissioner of Patents,
 Washington, D. C."

All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR

AS

UNITED STATES PATENT OFFICE

WASHINGTON, D.C., Oct. 24, 1905.

MAILED

Adolph F. Rietzel,

Care Townsend & Decker,

New York City.

your

Please find below a communication from the EXAMINER in charge of the application of
 for Method of Electric Welding, filed Feb. 24, 1905, Ser. No. 247,081

F. I. Allen



Commissioner of Patents.

This is in response to amendment of Oct. 18, 1905.

In the amendment filed Oct. 18, 1905, page 2, line 1, some word has evidently been omitted. It is suggested that without should be inserted after other.

Claim 1 is rejected on Thomson, 396,015, Jan. 8, 1889 (Metal Heating and working, Riveting).

Claims 2, 3, 4 and 5 are rejected on Hunter, 690,958, as they involve the same method. The same steps in the process of welding the plates together are taken in both cases, only that in Hunter the welding heat and pressure are continued until the separate welds unite, while applicant stops short of this, which, however, does not involve invention.

Rule.

A. F. Kinnan Ex

1736

MAIL ROOM
OCT 23 1906
U.S. PATENT OFFICE

DIV. 37 PAPER NO. 4
Sub. Spec.

New York, Oct. 22nd, 1906.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of Adolph
F. Rietzel for Method of Electric Welding, filed Feb.
24th, 1905, S. N. 247,081;

In reply to Office letter of Oct. 24th, 1905,
please amend as follows:

✓ In the title of the invention erase "Method
of Electric Welding" and substitute, "Uniting the Component
Sub. Spec Parts of Composite Sheet Metal Structures".

✓ Erase the specification and claims and all amend-
ments thereto and substitute:

Sub. D. Spec. ~~The present invention relates to the manner
of forming a union of two plates or sheets of metal es-
pecially in the thinner gauges in those cases where it is
desired to form a composite metal structure in which the
sheets or plates are securely fastened together at their
plane faces.~~

~~Heretofore in forming a union between two pieces
of sheet metal when it is desired to secure them together
at their plane faces, the practice has been to use fastening
screws or bolts or tongues or projections on one sheet or
piece lapped or turned down upon the other to lock them to-
gether.~~

~~It has also been proposed to unite the two pieces
in order to form the desired structure, by riveting them to-
gether at a number of points sufficient in number or suffi-~~

ciently near together to clamp or secure them firmly together.

The present invention consists essentially of a welded union of two plates or sheets of metal at their plane faces by a multiplicity of distinct or isolated points of electrically welded union.

The invention is especially useful in the manufacture of articles from sheet metal in which the completed article is a composite sheet metal structure.

In carrying out the invention, the distinct or isolated points of welded union are determined by the location and embrace the material comprising or disposition of, initial electrical contacts cast, punched or indented in the plane surfaces of the metal or otherwise formed so as to provide a multiplicity of isolated contact spots for the passage of an electric current, which heats the metal at the contact spots or points contiguous thereto to a welding temperature so that on application of pressure the corresponding number of welded points of union are established which unite the sheets firmly together.

Also in carrying out the invention, the initial contact spots coinciding with the finished points of union may be provided by disposing a number of small pieces of metal over the surfaces presented to one another, which pieces become united with said surfaces in the welding process.

In carrying out the invention, the points of contact are separated from one another or so disposed that the unions will not run into one another. By so spreading the spots, it is possible to effect the union with less consumption of power than would be required if they were so close together as to run into one another, since in the latter case,

it is obvious that a large number of spots would be required and consequently a larger amount of heating current would have to pass in order to heat them all to welding temperature. It will be found, however, that a perfectly firm and tenacious union of the plates can be secured when the distance between the spots is made such that the union is at a number of isolated or distinct spots of welded union instead of by a continuous line.

Figures 1, 2, 3, 4 and 5 show pieces of metal of different forms interposed between the electrodes of an electric welding machine; Figs. 6, 7, 8 and 9 show modifications in the form and disposition of the isolated projections.

Sub. Spec.
ter C.

Fig. 10 shows 3 plates assembled for welding together.

Referring to Figs. 1, 2, 3, 4 and 5, the electrodes of an electric welding machine are indicated at ^AA'. These electrodes, as usual in the art, supply heating current to the work interposed between them, and also preferably serve as the means through which welding pressure may be applied to the work while heated to welding temperature. In Fig. 1, piece B' is a plate or sheet of metal to be welded at its plane surface to an opposite plate or sheet B. In this figure the plate B' has a number of isolated contact spots c, which may be formed by indenting the plate and which projections engage directly with the opposite plate B.

As before stated, these spots are isolated from one another and separated by such spaces that after the application of the heating current and the pressure the union will be at a number of distinct or isolated welded points and will not consist of a continuous line of unions coincident with said spots as would be the case if the spots were close together and larger in number so as to require more power and to cause

the welds to run into one another.

In Fig. 2 both plates have projections which engage with one another, although, and as indicated in Fig. 10, each of the contact spots or projections c upon one plate might engage with the plane surface of the opposite plate.

In the operation of forming the weld, current is passed from one plate or piece to the other through the contact spots or projections c, raising the metal to welding temperature at such points, and the application of welding pressure in the usual manner forms spots of welded union coincident with such points or projections and which firmly unite the pieces together. The contact points, spots or projections might be formed on either or both surfaces by casting the projections thereon which modification is indicated in Figs. 3 and 4 wherein the pieces B, B' are supposed to be cast metal plates or pieces.

In Figs. 1 and 2 the plates are supposed to be of sheet metal. These plates or projections may be formed, however, in any desired way upon the surface with which the welded union is to be made. Instead of providing contact spots consisting of projections from the plane surfaces themselves, they may be provided by interposing separate pieces of metal, C', as indicated in Fig. 5 which are disposed in any desired number, according to the number of points of union desired, over the plane surface with which the welded union is to be formed. These different spots or projections may take any desired form or be disposed in any desired relation to one another and to the boundaries of the surface with which the welded union is to be made.

As shown in Fig. 6, they may be rounded projections disposed near the edges of the plate or they may be somewhat elongated projections as shown in Figs. 7 and 8 and symmetri-

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cally or irregularly arranged as shown; as shown in Fig. 9, they may be a combination of round and elongated projections.

As will be obvious their form and disposition may be greatly varied, and as already stated, the manner of producing them is capable of indefinite variation.

Fig. 10 illustrates the welding of 3 plates or sheets together. The number can be extended indefinitely, and while ordinarily only two pieces would be welded at a time, more may be welded provided the current is sufficient.

The invention is of special utility in the manufacture of articles from sheet metal which are stamped out to different forms, and which heretofore have been joined in a mechanical way requiring expensive dies and tools to produce the finished article. When the invention is employed in this field of manufacture, all that is necessary in order to provide for the union of the pieces is to form or provide the spots or projections in any desired way or in any convenient form on the surface to be united, either by punching, indenting or otherwise forming them up or by providing isolated metal pieces to be united in an electric welding machine and weld them together as already described.

I am aware that it has been before proposed to unite two plates or sheets of metal electrically by providing points of contact so disposed that on the passage of the current, the softened metal of contiguous spots will run together making a continuous welded line, but in my plan of union no such action takes place, since the number of spots or their proximity to one another is determined by the number of distinct spots of welded union required to give the desired strength and is not such as to cause the molten metal to flow and form a continuous line of molten metal uniting all the spots.

What I claim as my invention is:

- 1- Metal plates fastened together at their plane surfaces by a number of distinct or isolated welds formed between such surfaces.
- 2- Composite sheet metal work formed by a union of the component sheets at a multiplicity of distinct or isolated points of electrically welded union over their abutting faces.
- 3- Articles of composite sheet metal manufacture having their component parts united at their plane faces by a multiplicity of distinct or separate points of electrically welded union.
- 4- The herein described method of fastening two plates or sheets of metal of any guage together at distinct points of union disposed over their plane surfaces, consisting in providing a multiplicity of electrical contact spots over said surfaces coincident with the separated spots of passing electric current union from one plate to the other through said contact spots simultaneously and applying pressure to effect the union at the distinct or isolated spots between said plane surfaces.
- 5- The herein described method of fastening two pieces of metal together by providing each plate with a number of projecting contact spots on its plane surface disposed at such distances apart that the unions will not run into one another but will, nevertheless, firmly hold the plates together, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other through the spots and simultaneously applying pressure thus uniting the plates at a number of distinct points of welded union.
- 6- The method of fastening two plates of metal together

at a multiplicity of distinct or separate points of welded union, consisting in providing between them a number of isolated contact spots adapted to pass an electric current from one to the other but so separated that the electric welds will not extend into one another from one spot to the next, passing a heating electric current through such spots simultaneously and applying pressure as and for the purpose described.

Spec.

7- The herein described method of fastening two plates together at a multiplicity of distinct mechanically separated points of welded union, consisting in indenting each plate to form a number of projecting contact spots on the plane surfaces which are to abut, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other thereby forming a number of distinct zones or points of heated metal heated to welding temperature, and applying pressure to complete the union of plates by a number of mechanically distinct unions."

REMARKS.

We present herewith an entire new specification and claims which more fully set forth the invention and distinguish the same from anything disclosed in the Thomson or Hunter patents. The Hunter invention both in conception and execution is radically different from applicant's invention. In Hunter the primary purpose was to form a continuous line of welded union. In applicant's case the design was, broadly speaking, to form a union at a number of distinct or isolated spots chosen as to frequency or number or distance apart for the desired strength of union face to face of two plates of sheet metal. In Hunter the requirements of his process are not satisfied unless the initial contact spots are so close together that the welds will extend into one another to make

a continuous line of union. It is distinctly stated in his specification that when the projections melt, small lakes of molten metal are formed which quickly spread and unite. As a matter of fact this requires that the points or spots should be very close indeed to one another and so that it would not be possible, as suggested by the examiner, to stop the process at a point such that separate welds would be formed. This would be quickly appreciated by the examiner if he should see the process of welding as carried out by applicant in the uniting of two plates or sheets of metal face to face. As well understood by those skilled in this art, the initial pressure during which the heating to welding temperature takes place is accompanied by a pressure upon the work sufficient to insure good connection electrically, but this pressure is not the efficient welding pressure. As soon as the welding temperature has been attained the weld is effected by a smart or quick application of the heavy or welding pressure. The suggestion of the examiner practically amounts to the suggestion that this heavy welding pressure could be stopped at an intermediate stage in practising the Hunter invention so as to produce separate welds. To this the applicant replied that it would be, in the first place, impossible for the operator to adjust or stop this welding pressure at any particular stage of the operation of effecting the union no matter what the number of proximity of the spots and that in the next place it is essential in the Hunter process that the projections should be so near together that the small lakes of molten metal or fused metal will be formed and will quickly spread and unite so that obviously distinct points of union are impossible from the very nature of the process as detailed by Hunter.

It must be further apparent that in the Hunter process it is essential that a very great number of points of

union must be used or any given area of plates to be united, as compared with the number required in applicant's process, and hence when economically considered the consumption of power must be much greater in Hunter's case than in applicant's.

Moreover, as a structure a piece of composite sheet metal work in which the union face to face is effected by a multiplicity of distinct points of welded union between the abutting plane faces is a distinctly different thing from a structure like Hunter's in which ~~xx~~ two plates of metal are united simply by lapping their ends for a shorter distance upon one another and forming a continuous line of welded union extending transversely across the plates. From every standpoint, the two inventions are distinctly different.

Regarding the Thomson patent, we have simply to say that this describes the riveting of pieces of metal together by a number of rivets. This is quite a different thing from the union of two plates of sheet metal face to face by isolated electrically welded spots on the abutting faces of the plates.

A reconsideration is respectfully requested.

Respectfully submitted,

A. F. Rietzel

By Townsend & Decker

Attorneys.

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., November 9, 1906.

MAILED

Adolph E. Rietzel,

C/o Townsend & Decker,

141 Broadway,
New York, New York.

your

Please find below a communication from the EXAMINER in charge of the application of

#247,081, filed February 24, 1905, for Uniting the Component

Parts of Composite Sheet Metal Structures.

F. I. Allen

F. I. Allen

Commissioner of Patents.

This action is in response to applicant's communication of October 23, 1906.

In line 16, page 3, insert A, before "A'".

The claims present nothing patentable over Hunter of record. It is held that there is no invention in merely spacing the projections "b" further apart than Hunter does, especially if it is not deemed necessary to have a continuous weld. As it is old to unite plates at a multiplicity of distinct or isolated points by rivets, as shown in Thomson of record, it is held that to decrease the number of projections on Hunter's plates so that there will be a multiplicity of distinct or isolated points of welded union does not amount to a patentable distinction. With regard to having projections on both plates, attention is called to lines 52-54, page 3 of the Hunter patent, in which he states that "the projections or points of contact" are "upon the edges of one or both plates".

Claims 1, 2, and 3 are also rejected on Thomson. In lines 25-33, page 1, he states that, by allowing the current to pass for a longer period, he can weld the pieces together around the rivet by the application of pressure. From this it follows

1746

#247,081.

2.

that the plates will be united at a multiplicity of distinct and isolated welds. It is true that the plates are riveted at these points but they are also welded together.

The claims are rejected.

Campbell

Examiner, Division XVI.

W.P.J.

1747

MAIL ROOM
NOV 19 1906
U.S. PATENT OFFICE DIV. 16, FILED.

PATENT OFFICE,
NOV 20 1906

PAPER NO. 6
AMENDMENT. B

New York, Nov. 16, 1906.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of Adolph F.
Rietzel for Uniting the Component Parts of Composite Sheet
Metal Structures, filed Feb. 24th, 1905, S. N. 247,081;

In reply to Office letter dated Nov. 9th, 1906,
please amend as follows:

✓ Erase the paragraph at the top of page 2 of the
substitute specification filed Oct. 23rd, 1906 and beginning
with the words "The present invention consists essentially"
and substitute the following:

"The present invention consists essentially of a
welded union of two plates or sheets of metal at their plane
faces formed wholly by a multiplicity of distinct or isolated
points of electrically welded union coincident with and com-
posed of the material embraced in raised electrical contact
spots in the plane surfaces of the metal."

✓ In the paragraph beginning with the words "In
carrying out the invention" on the same page and in the
third line thereof insert a "," after the word "of", and be-
fore the word "initial" insert "and embrace the material com-
prising"

✓ Erase the claims 1, 2 and 3 and substitute:

"1- Metal plates fastened together at their plane sur-
faces by a number of distinct or isolated welds between such

surfaces formed wholly of portions of the plane surfaces of said plates.

2- Composite sheet metal work formed by a union of the component sheets by a multiplicity of distinct or isolated welds disposed over their abutting faces and each coincident with and comprising material embraced in raised electrical contact spots in the plane surfaces of the metal, as and for the purpose described.

3- Articles of composite sheet metal manufacture, wholly united at their plane faces by a multiplicity of distinct or separated points of electrically welded union composed of the material of the plates themselves."

R--E--M--A--R--K--S.

In the foregoing amendment of claims 1, 2 and 3, we have differentiated applicant's invention from anything contained in the Thomson patent. That patent constitutes the prior art recognized by applicant in his specification and a careful consideration thereof will make it clear that applicant has made a distinct advance in this art worthy of a patent. It is clear that in the Thomson patent the use of a rivet is made essential. It does not matter whether the heating is carried on to the point such that the rivet itself will, at its edges, become fused to the edges of the opening in the metal plates or that he describes a continuation of the heating until the contiguous portions of the plate may become welded together. The rivet is there and must be provided to become an essential part of the union. To produce the union, according to the Thomson patent, there is involved a preliminary punching of the plates with holes, the provision of a rivet, the insertion of the rivet in the hole and the application of a peculiar form of

die to each of the rivets separately, the form being adapted to the particular shape of rivet head which it is desired to make.

In applicant's welded union, there is a distinct new thought that a union might be secured by a simple union of the plane faces of the sheets at a number of distinct or isolated points and without the use of any rivets, by simply making the proper initial contact spots on the plane faces of the metal sheets and letting such initial contact spots become embraced in the union so as to constitute practically the uniting material.

There is nothing in the Thomson patent suggesting such a thing for it does not say a word about producing any projections or contact spots in the plane surfaces of the metal sheets and unless that be done, no union, such as mentioned in the examiner's letter, would be possible without the use of the rivet to form the initial heating path for the current. Only upon the theory that it would be possible and also an obvious thing to omit the rivets of Thomson, can the suggestion of welding at points around the rivets, as contained in that patent, be of any avail to anticipate applicant's invention, but as just stated, to omit the rivets in Thomson would not be possible for there would then be left no means for localizing the heating current. These considerations we submit are sufficient to make the Thomson patent insufficient as a reference or anticipation of applicant's invention. We also, however place out objection to the sufficiency of that reference upon the distinct ground that applicant's invention as set out and claimed by him excludes the use of rivets and that there is no suggestion in the Thomson patent of omitting the rivets, nor would it be obvious to any one that such rivets could be omitted and the proper union secured without them.

In regard to the Hunter patent and the suggestion now offered by the examiner that Hunter might place his contact

points at distances further apart than is described in his patent and thereby satisfy the requirements of applicant's invention we respectfully reply that there is no such suggestion in the Hunter patent and that, moreover, if the distances were made substantially greater, it would be either impossible to practise the Hunter invention which requires that small lakes of molten metal shall be formed, that, as the specification states, "quickly spread and unite", or else the pressure and passage of current would have to be continued so long as to result either in the complete melting down of the whole material of the plates and the consumption of an inordinate amount of power. In other words, there is a distinct and unmistakable difference between the Hunter process which requires such propinquity of the contact spots that by the use of current sufficient in amount or in period of application, there will be a merging of the welds into one another to make practically one weld by the flowing of small lakes of molten metal into one another, and ~~is~~ a process in which the contact spots are chosen with reference to the formation of distinct points of weld by the application of the usual current and pressure, the number of points being chosen wholly with reference to the production of a union which, in the multiplication of the isolated unions, shall produce a fastening of the plates together with the desired strength.

The suggestion of the Examiner that the latter process is suggested by Thomson taken in connection with Hunter clearly is of no force in view of the fact that the Thomson process as outlined in his patent could not be practiced at all if the rivets were dispensed with or, in other words, the rivets are with Thomson the essential means for forming the paths of the initial heating current and in fact would be substitutes to that extent of the contact projections formed by indenting the plates in the manner proposed by applicant.

It is clearly going beyond the point by any possibility hinted at in the Thomson patent to say that that patent discloses to one skilled in the art the idea of dispensing entirely with the rivets, and as a substitute for such rivets in forming the initial contact or path between the jaws of the machine, using contacts formed by indenting the plane surfaces of the metal at points coincident with the axes of the rivet holes

It is alike outside of any possible suggestion contained in the Thomson patent to say that the patent discloses the idea of omitting the rivets altogether, leaving the holes punched in the material and raising the material around the punched holes so as to form welds over the areas around said holes. We submit not only that neither of the two patents discloses the invention for which applicant seeks a patent. Nor can it be justly said that taking the two patents together, they furnish an obvious suggestion to one skilled in this art of applicant's invention. The fact of the matter is that the process and the product devised by applicant are a distinctly new thing in this art and they mark an advance in the art by a step much broader than anything separating the Hunter patent from the art previous to his date of filing, April 7th, 1898.

Respectfully submitted,

A. F. Rietzel

By Townsend & Decker

Attorneys.

1772

Div. XVI, Room 109. C.E.N.

2 260

Paper No. 7.

Address only
The Commissioner of Patents,
Washington, D. C.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., December 5, 1906.
MAILED

Adolph E. Rietzel,

C/o Townsend & Decker,

141 Broadway,

New York, New York.

Please find below a communication from the EXAMINER in charge of ^{your} ~~the~~ application of
#247,081, filed February 24, 1905, for Uniting the Component
Parts of Composite Sheet Metal Structures.

F. I. Allen

--E. B. Allen--

Commissioner of Patents

This action is in response to amendment of November
19, 1906.

The second paragraph of the office letter of November
9, 1906, is repeated.

The former action with respect to the claims is be-
lieved to be sound and is adhered to. It is still held that
there is no patentable invention in merely providing projections
or points of contact on the plates so spaced that the welds
produced will be isolated and distinct.

The claims are rejected on the references and for the
reasons of record.

Campbell

W.P.J.

Examiner, Division XVI.

Serial No. 247,081

Paper No. 8

APPEAL.

Name, A. F. Rietzel

Filed Feb. 24, 1907.

Title. Uniting the Component Parts of Composite Sheet Metal Structures.

TO EXAMINERS-IN-CHIEF.

Reasons for appeal, Nov. 30 - 1907.

Examiner's statement, Jan. 30-1908; Exr's Supplementary Statement, June 8-1908

Notice of hearing,

Brief,

Decision,

Notice of decision,

TO COMMISSIONER.

Received,

Brief,

Notice of hearing,

Decision,

Notice of decision,

Printed in U.S.

1754
Div. XVI. Room 10

C.E.N.

2-200

Paper No. 9a

Address only
The Commissioner of Patents,
Washington, D. C.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., December 9, 1907.

MAILED

Adolph F. Rietzel,

C/o Townsend & Decker,

141 Broadway,

New York, New York.

your
Please find below a communication from the EXAMINER in charge of the application of
#247,081, filed February 24, 1905, for Uniting the Component
Parts of Composite Sheet Metal Structures.

E. B. Moore

Commissioner of Patents

The appeal in this case has not been forwarded as it
seems to be premature. The formal matter referred to in office
letters of November 9, 1906, and December 5, 1906, has not
received attention, and the first three claims have not been
twice rejected.

Wm A Kinnan

Examiner, Division XVI.

MAIL ROOM
DEC 18 1907
U.S. PATENT OFFICE

PATENT OFFICE
DEC 23 1907
DIV. 16, FILED.

1735
PAPER NO. 10
AMENDMENT C

New York, Dec. 16, 1907.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of Adolph F.
Rietzel, for Uniting the Component Parts of Composite Sheet
Metal Structures, filed Feb. 24th, 1905, S. N. 247,081;

In reply to Office letter dated Dec. 9th, 1907,
please amend as follows:

✓ Page 3, line 16, before A insert "A"

Remarks.

A reconsideration of claims 1, 2 and 3 is requested
and attention again called to the facts set forth in the
argument accompanying the amendment filed Nov. 19th, 1906.

Respectfully,

A. F. Rietzel

By Townsend & Decker

Attorneys.

1756

Div. XVI. Room 109. C.E.N.

2-260

Paper No. 11.

Address only
"The Commissioner of Patents,
Washington, D. C."

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

Adolph E. Rietzel,
C/o Townsend & Decker,
141 Broadway,
New York, New York.

WASHINGTON, D.C., January 27, 1908.
MAILED " " "

your
Please find below a communication from the EXAMINER in charge of the application of
#247,081, filed February 24, 1905, for Uniting the Component Parts
of Composite Sheet Metal Structures.

E. B. Moore

Commissioner of Patents.

This action is in response to amendment of December
18, 1907.

All the claims are again and finally rejected on the
references and for the reasons of record.

Backus

Wm A Kinnan

Examiner, Division XVI.

MAIL ROOM
JAN 30 1908
U.S. PATENT OFFICE DIV. 16 FILED.

PATENT OFFICE
FEB 1 1908

1737
PAPER NO. 12
LETTER

New York, Jan. 29, 1908.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of Adolph
F. Rietzel for Uniting the Component Parts of Composite
Sheet Metal Structures, filed Feb. 24th, 1905, S. N.
247,081;

Replying to the Examiner's letter dated Jan.
27th, 1908, we request that the appeal dated Nov. 27th,
1907, be forwarded.

Respectfully,

Adolph F. Rietzel

By Townsend & Decker
Attorneys.

1758
MAIL ROOM
MAY 28 1908
U.S.PATENT OFFICE

U.S.PATENT OFFICE Serial No.247,061, Paper No.13
JUN 1 1908
Letter
DIV. 13.

New York, May 27th, 1908.

Hon. Commissioner of Patents,

Washington, D. C.

Sir:-

In the matter of the application of Adolph
F. Rietzel, for Uniting the Component Parts of Composite
Sheet Metal Structures;

We understand that the Examiner, in view of the
representations made at the personal interview referred to
in our communication of April 20th 1908, and on further
consideration of the case in connection with the specimens
filed at that time, is prepared to recede from his position
that there is no patentable merit in the case over the Hunter
patent but that he holds to the view that the claims do not
clearly express the difference over the Hunter process and
apparatus in this respect, to wit; that the metal between the
points in the present process is not brought to the plastic
or welding condition.

Upon this point, to wit; whether the claims bring
out this difference we ask a reconsideration.

It would seem clear that this difference is
clearly stated in claim 1 by the term "isolated welds" and
in claims 2 and 3 by the terms or expressions "multiplicity
of distinct or isolated or separated points of union".

The same idea also is, we think, clearly expressed
in claim 4 and certainly in claim 5 by the statement that the
contact spots are so far separated that the welds or unions
will not extend into one another.

1759
The same idea is also expressed in claims
6 and 7.

In view of the facts, as we understand them, we
accordingly request a further action on the merits of
the case which, in our view, should be an allowance of
the case on the claims in the form in which they now stand.

Respectfully submitted,

A. F. Rietzel

By Townsend & Decker

Attorneys.

1760

Div. 26. Room 105-

Address only
"The Commissioner of Patents,
Washington, D. C."

2-260

PH

Paper No. 14.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., June 8, 1908.

MAILED

Adolph F. Rietzel,

Care, Townsend & Decker,

141 Broadway, New York, N. Y.

Please find below a communication from the EXAMINER in charge of ^{your} the application of-
for "Method of Electric Welding", filed Feb. 24, 1905, Serial
No. 247,081.

E. B. Moore

Commissioner of Patents

In response to communication of May 28, 1908.

This case has recently been transferred to division 26.

The Examiner now in charge of this case has no knowledge of the personal interview referred to in the applicant's letter of above date, and is aware of no reason why the appeal should be withdrawn and the claims reconsidered. The applicant's request for reconsideration is accordingly refused, and the appeal should be prosecuted.

The Examiner proposes to direct the attention of the Board of Examiners-in-Chief to the British patent to Harmatta, 22,981 of 1903, Class 219, Welding (see Fig. 4 and lines 32 and 33, page 5), as additional ground for the rejection of claims 1, 3, 4 and 6. Fig. 4 of this patent shows a spot weld, which takes the place of a rivet, and it is not considered to be a patentable improvement to join two sheet metal plates by a number of such "spot welds".

HL

A. P. Shaw Ex

Div. 26 Room 105-

Address only

"The Commissioner of Patents,
Washington, D. C."

2-280

Paper No. 15.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

PH
DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., June 16, 1908.

MAILED

Adolph F. Rietzel,

Care, Townsend & Decker,

141 Broadway, New York, N. Y.

your
Please find below a communication from the EXAMINER in charge of the application of
for "Method of Electric Welding", filed Feb. 24, 1905, Serial
No. 247,081.

E. B. Moore

Commissioner of Patents.

2-2801

This case has been remanded to the Primary Examiner by the
Board of Examiners-in-Chief at the request of the applicant.
This request was filed June 13, 1908, and is to be found in the
appeal file.

In view of this request and of the fact that the applicant
desires to be heard before the Primary Examiner on a new reference
that was cited in the case in the Examiner's supplemental statement
of June 8, 1908, the final rejection is withdrawn.

The claims stand rejected, and the case awaits amendment on
the part of the applicant.

A. P. Shaw Ex

HL

1762

MAIL ROOM
NOV 30 1908
U.S.PATENT OFFICE DIVISION 26

U.S.PATENT OFFICE Serial No.247,081 Paper No.16
DEC 1 1908 Amend't D and Affidavits

New York, Nov. 24th, 1908.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application for patent of
Adolph F. Rietzel for Composite Metal Structure,
filed February 24, 1905, S. N. 247,081:

We hereby amend as follows:

✓ Erase the specification and claims and all amend-
ments thereto and substitute the following:

My invention relates to the manner of uniting
or fastening two pieces of metal to one another and
its object is more particularly to afford a substitute
for the manner of uniting pieces of metal as hereto-
fore practized in the art of electric welding.

As applied to sheet metal manufactures the object
is to afford a cheap and practical substitute for ri-
veting and other methods of mechanically securing the
two pieces of metal together.

As applied to this branch of the metal working
arts, the invention affords a means whereby articles
of composite sheet metal manufacture may be made up
by fastening the pieces of metal constituting the
structure with a perfectly secure union by ^a process
that can be economically conducted.

Briefly stated, the invention consists in elec-
trically welding pieces together in a spot or spots
definitely located in and involving a portion only of

their meeting surfaces as hereinafter more particularly described and claimed.

It has been before proposed to electrically weld two rods of metal together by a butt-welding process, the area of union effected being substantially coextensive with the cross-section of the pieces at their meeting ends, that is to say, the weld has been made over ~~the~~ substantially the whole area of the opposed portions of said pieces. It has also been proposed to make a lap joint between the ends of two strips of metal by electrically ^{uniting} welding them together over substantially the whole area of the lapping surfaces.

² A weld formed according to my invention is distinguished however from such prior welds by the fact that a portion only of the opposed surfaces is welded together, such portions being coincident with an limited to spots in the areas of such opposed surfaces in which spots the heating electric current is localized or confined in any desired way so that the major portion of the opposed surfaces will not be involved in the welding, although they may, after the completion of the operation, lie in contact with one another or very close together.

My invention is particularly valuable in fastening of pieces of sheet metal together because not only does it limit the amount of electric energy required very considerably as compared with the prior methods of union, but it also diminishes the liability to burning of the metal which is liable to occur when the attempt is made to form a union of two sheets of metal by an

1764
electric welding process over substantially the whole area of the meeting or opposed surfaces.

In carrying out my invention any desired number of spots of union may be employed, such number depending obviously upon the extent of the meeting surfaces which are to be fastened together and also upon the strength of the union desired.

In carrying out my invention the localization of the flow of heating electric current and of welding pressure to the desired spot or spots may be brought about in any desired way. One of the preferred ways is by providing between the meeting surfaces or portions of the pieces to be united suitable conducting projections or points at the spots of union, which projections or points carrying the heating electric current from one piece to the other are so located in the meeting surfaces and are so separated from one another that on the application of the welding pressure the welded union resulting will be localized in the area of the opposed surfaces and will be substantially coextensive in area with the restricted area of the path of the effective heating current. Various ways of providing such points or projections will occur to those skilled in the art.

The preferred method is to indent the metal from the side reverse to that on which the union is effected by a suitable tool, the projections thus formed affording points for the passage of the electric current. This method is preferable also because it permits the welding to be produced at a multiplicity of spots simultaneously through the application of pressure over the whole rear surface of the plate, the points or pro-

jections in that case serving not only to localize the flow of the heating current but also to localize the welding pressure. In the preferred manner of carrying out my invention in the case of sheet metal manufacture I provide projections from the meeting surfaces of both pieces that are to be united. Said projections may also be provided by interposing between the two plane sheets small pieces of conducting material which act in the same manner when the sheets are brought together, as projections which localize the heating current and the pressure. It will be understood, however, that in the latter instance as in the former, these pieces are so small and are placed such a distance apart that on the application of welding pressure there will be no running of the welds into one another but that the final union will be in spots only leaving well-defined areas on the meeting surfaces, in which the surfaces either lie in contact or separated from one another by a very thin space.

From the foregoing it will be seen that my invention is distinguished from prior methods of welding pieces of metal together in that it may be very cheaply practised, because no attempt is made to weld over the whole of the opposed surfaces of the welded pieces; but on the contrary the union is at a spot or spots only which in ordinary cases will afford as strong a union as would be produced by the riveting of the pieces.

The invention further has the advantage that not nearly so much electric energy is required as is necessary when the electrically welded union extends over the whole area of the opposed surfaces. Moreover, the danger of burning when ^{the} attempt is made to weld two sheets

of metal together by a lap weld is largely eliminated.

In the accompanying drawings Figs. 1, 2, 3, 4 and 5 illustrate some of the ways in which ^{pieces of} the metal to be united may be prepared for the welding according to my invention.

D Figs. 6, 7, 8, and 9 show modifications in the form and disposition of the contact projections which result in the spots of electrically welded union.

Fig. 10 shows the assembling of three plates together for welding according to my invention.

In the various figures of the drawing the invention is illustrated as carried out with two sheets of metal B.B'. In Fig. 1, plate B.' only is provided with the distinct or isolated spots (a) or projections for the flow of the electric current, to the plate B. which spots or points may be formed by indenting the plate with a suitable tool. The spots are located so far from one another that on the application of pressure coincidentally with the flow of electric current from one plate to the other there will be a number of distinct areas or spots of electrically welded union of the plates separated by well-defined areas on the meeting surfaces in which no union takes place. The resultant is however a fastening of the plates together securely and which is practically as effective as if the attempt were made to form a welded union over the entire areas of the meeting surfaces. Obviously, the greater the distance between the spots the lesser the number that would be used and hence the lesser the consumption of energy in effecting the weld. This is of considerable importance where the meeting ~~surface~~ areas are large or

where a considerable amount of work has to be done.

The welding pressure is conveniently applied by conducting-blocks or electrodes, A, A', between which the two pieces B, B', are assembled. These electrodes, A, A', furnish the heating current while applying the pressure, the localization of the pressure in the spots being brought about in this instance by the pointing of the surfaces at point c.

In Fig. 2 both plates are provided with projections the points of which engage with one another, the pointing being produced by indenting the metal sheets from the rear.

Fig. 3 illustrates the localization of the welding by casting projections upon one of the sheets and Fig. 4 by casting projections on both pieces. The localization of the welding in spots might be affected as illustrated in Fig. 5 by interposing small pieces of metal at the spot or spots of desired union, these pieces operating when the plates are brought together in the same way as the projections before referred to. The number and size of the pieces and their distance apart is in this case, as before, so chosen that the application of pressure together with the flow of heating current from one plate to the other will result in a union of the two pieces over their opposed surfaces in spots only thereon.

Fig. 6 shows how the spots might be disposed to fasten the pieces together in distinct spots around their edges.

As shown in Figs. 7 and 8 the projections, instead of being round, might be somewhat elongated and

irregularly or symmetrically arranged.

Fig. 9 shows round and somewhat elongated projections combined.

D

In all these instances however, the union over the surfaces of the plates is confined to spots or areas which are of comparatively small extent as compared with the total area of the meeting surfaces. As will be obvious, the form and disposition of the points or projections of initial contact for flow of the electric current and localization of the pressure may be greatly varied without departing from my invention.

Fig. 10 illustrates the welding of three plates of sheets together when superposed.

My invention is especially useful in the manufacture of articles from sheet metal which are stamped out to different forms, and which have heretofore had their component portions united by riveting or other purely mechanical expedient which is not only expensive but requires generally special tools and results in many cases in an insecure union. When the invention is employed in its preferred form or manner of practice in the field of sheet metal manufacture all that is necessary is to provide the contact spots or projections as already described and then to assemble the pieces in an electric welding machine and weld them together as already set forth.

Insert
F²

Sub. F¹

What I claim as my invention is:

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at a spot or spots only of their juxtaposed or opposite faces.
2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, ^{and} passing electric current through the pieces from one to the other, ^{while} confining the flow of current to said spots until the union is effected.
3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current, and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces, ^{so} as to limit the fusion-and-welding of the pieces to a spot or spots.
4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, ^{and} passing a welding electric current from one to the other, ^{while} and localizing the pressure in, ^{and} confining the flow of current to the spot or spots of desired union and the areas immediately surrounding the same so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the

pieces are not welded together.

5. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and, simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets entirely surrounded at spots ~~separated from one another~~ by areas of no union.

6. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surfaces a well-defined and comparatively extensive completely surrounding said spot area of no union.

7. The method of welding two pieces of metal together, consisting in superposing said pieces with their surfaces at which the union is to take place, superposed or presented to one another, pressing the pieces together, ^{and} passing a heating ^{electric} current from one to the other ^{while} and localizing the heating current simultaneously in a number of distinct or separate spots of limited area, separated from one another sufficiently to secure a union of the pieces in a number of corresponding distinct spots surrounded by and separated from one another by comparatively distinct areas in which no union exists.

8. The method of uniting two pieces of metal, consisting in providing between their meeting surfaces a

number of projections, spaced apart as described, pressing the pieces together and passing an electric current through said projections ^{while} and confining the welding area of such current to said projections ~~and the areas immediately surrounding the same~~ so as to leave ^{around} distinct areas ^{between} spots in which no welding shall be produced.

9. The method of fastening two plates of metal together at a multiplicity of distinct or separate points of welded union, consisting in providing between them a number of isolated contact spots adapted to pass an electric current from one to the other but so separated that the electric welds ~~will not extend into one another from one spot to the next~~ ^{will not}, passing a heating electric current through such spots simultaneously and applying pressure as and for the purpose described.
10. The herein described method of electrically welding two plates or sheets of metal of any gauge together by distinct spots of union disposed over their plane surfaces, consisting in providing a multiplicity of electrical contact spots coincident with the separated spots of union and disposed at such distances apart that there will be well-defined areas between spots through which the electric current will not flow, passing electric current from one plate to the other through said contact spots simultaneously and applying pressure as and for the purpose described.
11. The method of fastening two sheets of metal together, consisting in providing between them a number of isolated contact spots for the passage of the electric welding current, said spots being adapted to ini-

- tially hold the plates apart and being separated from
 one another a sufficient distance to confine the weld-
 ing to distinct areas or ^{isolated spots} ~~spots-separated-by-well-~~
~~defined-areas-of-no-welding~~, passing a heating electric
 current through a number of ^{contact} ~~said~~ spots simultaneous-
 ly and pressing the plates together as and for the pur-
 pose described.
12. The method of fastening two plates of metal to-
 gether, consisting in furnishing a surface of said
 plates with a number of projecting contact spots for
 the passage of welding electric current and disposed
 at such distances apart that on the application of
 pressure the welds will not run into one another,
 superposing said plates, passing a heating electric
 current from one to the other over said separated spots
 and applying the pressure to produce a spot-welding of
 the plates to one another as and for the purpose des-
 cribed.
13. The herein described method of fastening two
 pieces of metal together by providing each plate with
 a number of projecting contact spots on its plane sur-
 face disposed at such distances apart that the unions
 will not run into one another but will, nevertheless,
 firmly hold the plates together, superposing said
 plates with the projecting spots in simultaneous en-
 gagement with one another, passing a heating electric
 current from one plate to the other through the spots
 and simultaneously applying pressure thus uniting the
 plates at a number of distinct points of welded union.
14. The method of uniting two sheets of metal face
 to face, consisting in indenting the material, super-

posing the plates with the ^{points} ~~point~~ of the indentations engaged, passing an electric current from one plate to the other through said ~~point-or~~ points simultaneously, and applying pressure while confining the area of heating to welding temperature to a circumscribed area or spot to unite the pieces in a distinct spot or spots of small extent in the whole area of the opposed faces.

15. The herein described method of fastening two plates together at a multiplicity of distinct mechanically separated points of welded union, consisting in indenting each plate to form a number of projecting contact spots on the plane surfaces which are to abut, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other thereby forming a number of distinct zones or points of heated metal, heated to welding temperature, and applying pressure to complete the union of plates by a number of mechanically distinct unions.

16. Composite metal work, having its component pieces welded together at one or more spots localized on their meeting surfaces or portions so as to ^{be} ~~separated~~ from one another on said meeting portions by distinct areas which are unwelded.

17. Metal plates fastened together at their meeting portions by a number of distinct or isolated welds formed at spots of such restricted area and so separated from one another that when welding electric current is passed from one to the other at said spots, the metal between the spots will not be brought to plastic or welding condition.

18. Metal plates arranged face to face and fastened together on their plane surfaces by a number of distinct or isolated electric welds formed of the metal of said plates in spots separated from one another to such a distance that in passing the heating electric current from one ^{plate} to the other there shall be distinct areas in which no effective welding current can pass.

D
Erased
Pr F

19. Composite sheet metal work formed by a union of the component sheets at a multiplicity of distinct or isolated welds, comprising raised electric contact spots in the plane surfaces of the metal of said plates, said spots separated from one another a sufficient distance to localize the welding in distinct spots separated by areas in which there is no union.

Insert-E⁸

20. Articles of composite sheet metal manufacture, united at their plane surfaces at a number of spots of electrically welded union involving the material of said plates and separated from one another to such a distance that in passing current from one plate to the other simultaneously at the points where said spots are located, there will be distinct areas between spots practically unaffected by the current.

Sub. E⁶

21. Composite metal work consisting of superposed pieces secured together by a welding of the same on their opposed faces by distinct spots of welded union, isolated or separated from one another by unwelded portions of such faces.

Sub. E¹⁰

Erased
Per F

22. Composite sheet metal work having its component parts welded to one another on their opposed faces at a multiplicity of distinct or separate spots of electrically welded union, substantially coextensive in area with the restricted area of the path of the

effective heating current so as to produce a welding in spots.

23. Metal pieces welded together in a spot or spots definitely located in and involving a portion only of their meeting surfaces as and for the purpose described.

REMARKS:

We submit herewith substitute specification and claims in the above-entitled case, together with an affidavit of the inventor, making oath to facts showing a completion of the invention in this country before the legal date of the foreign patent to Harmatta, cited by the Examiner as an anticipating patent.

We also submit an expert affidavit of Elihu Thomson, the inventor of the electric welding process, distinguishing the invention claimed by applicant from the invention as disclosed in the Hunter patent and in his own patent for electric riveting which has been cited by the Examiner.

The specification and claims now submitted have been drawn with a purpose of more fully and exactly bringing out the essential difference between the Rietzel invention and the Hunter invention or the invention in the Robb patent, and along the lines which led the Examiner having charge of this case when it was appealed, to consent to the remanding of it to him for further consideration, after a personal interview in

which the actual differences between the Rietzel and Hunter inventions were pointed out to and admitted by the Examiner. The gist of his objection to the allowance of the case at that time was that those differences were not sufficiently brought out in the claims appealed.

We think there can be no question as to the sufficiency of the specification and claims now submitted to distinguish the invention from the patents cited.

Applicant has made a valuable contribution to the art and one that has gone into very extensive use in the manufacture of sheet metal utensils. The invention marks a distinct step forward in the art and we are confident that the existence of an essentially novel invention clearly distinguishable from anything shown in the patents cited will be admitted by the Examiner. We may add that as to the Robb patent it is apparent that the patentee contemplated only the formation of a weld which would not be limited to a spot in the opposed or meeting surfaces but would spread and practically involve the whole of said opposed surfaces and would be coextensive in area with the cross-sectional area of one or both pieces taken on a line immediately back of the welded union or transverse to the line of welding pressure. It is true that Robb by a special expedient starts the heating at a point of comparatively small extent just as it had been started previously in the art by pointing the pieces. The ultimate union, however, was not limited in area or extent in the manner proposed by applicant, but was in fact a welded union of exactly the same kind as had been previously secured in the art by pointing the pieces.

Respectfully submitted,
(15) A. F. Rietzel By Townsend & Decker Attys

1777

Appn of A Z. Rietzel
Metal Working

MAIL ROOM
NOV 30 1903
U.S. PATENT OFFICE.

Filed Feby 24 1905. S N. 247081.

Specimen of Pulley

C F. Tischner Jr.

Notary Public.

Specimen attached to Affidavit cannot be furnished.

1778

MAIL ROOM
NOV 30 1908
U.S.PATENT OFFICE

IN THE UNITED STATES PATENT OFFICE.

Hon. Commissioner of Patents,

Washington, D. C.

Sir:-

In the matter of the application of ADOLPH R. RIETZEL,
filed Feb. 24th, 1905, S. N. 247,081 for Uniting Sheet Metal
By Electric Welding.

A F F I D A V I T.

County of New York }
State of New York } ss

ADOLPH P. RIETZEL being duly sworn deposes and says
that he is the applicant who filed the above entitled
application for patent; that some time in June 1904 he
successfully practised the invention in said application
by uniting two halves of a sheet metal pulley in a electric
electric welding machine at the shop of the Thomson Electric
Welding Co., in Lynn, Mass.; that the piece of sheet metal
herewith attached and marked: "specimen of pulley C. F. Tied-
H&J,.....N.P." is a duplicate of one of the
halves of the pulley to which he at that time applied the
invention; that the contact points or projections formed
in the sheet metal were in the first instance made by filing
the metal to leave the contact points or projections, in-
denting not being available at that time, but that in sub-
sequent operations in which his invention was employed the
projections were made by indenting the sheet metal, and
that the invention was frequently practised by him success-
fully at the shop of said Company on a standard welding
machine; that in conducting the operations on such machine
he employed a pair of contacts fitted in the jaws of the

machine and formed at their outer ends so as to fit into the cup shaped portion of the halves of the sheet metal pulley to be welded, thereby supporting the two halves with the contact projections engaged with one another; the two halves being in contact by the projections while assembled in the machine, electric current was caused to pass through the two halves by the contact projections, and pressure was then applied in the usual way practised in electric welding by the standard machine in which the operation in question was conducted; the operations above recited as conducted by him were uniformly successful and demonstrated clearly that the invention was complete in all particulars, and that the said invention has been since practised on innumerable occasions in substantially the same way for uniting pieces of sheet metal such as the halves of sheet metal pulleys of the form shown in the exhibit and of other forms and of other sizes, many of much larger size than that of the exhibit; that he does not know and does not believe that the invention aforesaid has been in public use or on sale in this country, patented or described in a printed publication in this or any foreign country for more than two years prior to his application and that he has never abandoned the invention.

Adolph F. Rietzel

Subscribed and sworn to by the aforesaid Adolph F. Rietzel before me this 23^d day of October 1908.

C G Tischner Jr

Notary Public.

NOTARY PUBLIC, KINGS COUNTY,
CERTIFICATE FILED IN NEW YORK COUNTY.

SEAL

1780

MAIL ROOM

DEC 2 1908

U.S.PATENT OFFICE

U.S.PATENT OFFICE Serial No.247,081 Paper No.1

DEC 3 1908

DIVISION 26

Letter

Examiner's Room,
No. 105.

New York, December 1st, 1908.

Hon. Commissioner of Patents,

Washington, D. C.

Sir:

In the matter of the application of A. F.
Rietzel for Composite Metal Structure, filed Feb.
24, 1905, S. N. 247,081:

The expert affidavit referred to in the remarks
accompanying our amendment of November 24th, 1908 was
not filed with said amendment but will be forwarded
to the Patent Office in a few days. We would request
that action on the amendment be postponed until such
affidavit is filed.

Very respectfully,

Townsend & Decker,

Atty's for

Applicant.

U.S. Patent Office
DEC 10 1908
DIVISION IV.

U.S. PATENT OFFICE
DEC 11 1908
DIVISION 26

Serial No. 247081 Paper No. 18
Affidavit

MAIL ROOM
DEC 9 1908
U.S. PATENT OFFICE

(Printed letter head omitted.)

New York, December 4th, 1908.

Hon. Commissioner of Patents,

Washington, D. C.

Sir:

In the matter of the application of A. F. Rietzel for
Composite Metal Structure, filed February 24th, 1905, S. N.
247,081:

We file herewith the affidavit of Elihu Thomson referred
to in the remarks accompanying our amendment of November 24th,
1908, and we request that action on the amendment be taken in
accordance with ours of the first of December, 1908.

Very respectfully,

Townsend & Decker

APPLICATION ROOM
DEC 9 1908
U.S. PATENT OFFICE

IN THE UNITED STATES PATENT OFFICE.

In the matter of the application of
Adolph F. Rietzel, for Electric Welding,
filed Feb. 24, 1905, S. N. 247,081;

A F F I D A V I T .

Essex	}	ss--
County of New-York,		
Mass.		
State of New-York,		

Elihu Thomson, being duly sworn, deposes and
says that he is and has been for many years past the
consulting engineer of the Thomson Electric Welding Co.;

That he is the originator and patentee of the
process for electric welding now, and for many years last
past, in extensive and commercial use, which process was
patented to him by United States Letters Patent dated
Aug. 10, 1886, Nos. 347,140, 347,141;

That he is familiar with said process in all of
its aspects, details and applications and has practised
it himself on innumerable occasions and is the inventor
and patentee of numerous modifications and applications
of the process and of machinery and apparatus for carrying
the same into effect;

That he is familiar with the process of electric
welding set forth in the above entitled application of
A. F. Rietzel for uniting sheets of metal together by what
has been known as the "spot welding process" and which forms
a practical substitute for the riveting of plates together
or for other mechanical expedient for fastening them to-
gether face to face;

That one of the methods of uniting pieces of metal together by riveting and for which the aforesaid spot welding process forms a valuable substitute was patented by him by United States Letters Patent dated Jan. 8, 1889, Patent No. 396,015;

That he has read and is familiar with the patent of R. M. Hunter, No. 690,958 for method of electric welding; that said process of welding as set out in said patent is distinctly different from the "spot welding process" aforesaid, in that the purpose of the inventor and patentee, Hunter, was clearly to make a lap joint between two pieces of metal by uniting them over substantially the whole area of the lapping surfaces; that there is nothing in said patent, by implication or otherwise, hinting at the uniting of the lapped surfaces by spots only of welding but that the whole purpose of the patentee, as disclosed by the specification of the patent was to produce a joint in which the welding area is substantially coextensive with the area of the overlapping or opposed meeting surfaces;

That in addition to the explicit statements in the specification the Fig. 4 of the drawing evidences the clear intention of the patentee to make a joint which would not be a spot welding joint but a joint practically coextensive in area of actual union with the area of the overlap, for in said figure it may be seen that the dotted circles showing the merging of the welds or areas of fusion in a line transverse to the strips of metal also are of a diameter practically measured by the extent of the overlap;

That if the metal be heated as the patentee proposes so as to form small lakes of molten metal which will quickly spread and to unite, then the areas of union which

the patentee presupposes in his Fig. 4 to be distinct circular areas would spread irregularly and there would not even be any triangular small areas near the edge of the overlap such as he has supposed would exist; that the production of a heated joint by the formation of liquid pools between the projections, as proposed in the patent, is impractical for the reason that the metal could not be heated to the degree of liquidity without danger of melting the whole sheet itself and that on the other hand if the projections be placed so near together as to permit the welds to unite by the spread of the merely plastic portions so as to merge into one another, the process would be in no substantial way distinguishable from any case of plane lap welding by the electrical process as practised for many years previously to the granting of said patent;

That in the invention of Mr. Rietzel aforesaid, the object and essential operation are entirely different from that of the Hunter process or invention, for the reason that there is no purpose in the Rietzel invention of forming a lap weld continuous over the whole opposed surfaces of the sheet metal pieces but on the contrary the purpose is distinctly to limit the welding to a mere spot or spots, forming, in effect, a substitute union for that made heretofore, by perforating the plates at the spot or spots of union and then inserting a rivet and heading down said rivet;

That in the Rietzel invention, in other words, the mechanical union of the plates is not over the whole area of the opposed or meeting surfaces but at a number of isolated places which are, strictly speaking,

spots, inasmuch as the welding portions of the plate form ~~the~~ portions only of their meeting surfaces and are separated from one another over large areas by disunited portions, said disunited areas being anything desired, consistent with the desired strength of the composite piece. It is therefore ~~practicable and possible~~ possible to get the desired strength of union with the expenditure of much less labor and electric energy than would be the case either by the riveting process or by the attempt to start the welding at a number of points sufficiently near together to cause merging of them into a continuous or unbroken area of welded union such as lies at the foundation of the Hunter process.

In other words, in the Rietzel invention there is ^{no} such thing as the flowing of the zones of heated metal together and no such thing as ^{a lap joint,} the area of union in which is coextensive with area of the overlap as shown and described in the Hunter patent.

The spot welding as contemplated by the Rietzel invention is entirely different in conception and application and affords a welding substitute for a rivetted union. There is no welding over the areas between the spots at which the heating current starts and in fact there may be such want of contact and union over such areas, as to allow a liquid to leak through between the plates whereas in the Hunter process the object, as set out in his specification, is to form a joint that shall be liquid-tight.

The accompanying specimen of work marked "Rietzel Exhibit #1 John A. McManus, Jr., N. P." and which I further identify by marking my initials "E.T." upon

the card attached is a sample of work made according to the Rietzel invention.

The accompanying exhibit marked "Rietzel Exhibit #2 J. A. McManus, N. P." and also with my initials "E. T." which I have placed upon the card is a fair sample of the result of an attempt to lap weld two sheets by the process which involves the formation of small lakes of molten metal mentioned in the Hunter specification.

The accompanying exhibit marked "Rietzel Exhibit #3 J. A. McManus, N. P." and also with my initials "E.T." is a specimen of a lap welding made by forming initial projections at such distances apart that cold metal will be left between said projections and the union will be therefore by a line of separate welded points in contradistinction to the continuous welds made by using a large number of projections placed in close proximity to one another so that they will run into a continuous line of weld, in which case, however, a much greater amount of power will be required and if the attempt be made to allow rivers of melted metal to be formed the result would be a probable burning of the metal as shown in Exhibit #2.

My prior patent #396,015 discloses the use of rivets and makes mention of welding but the only possible welding that could be produced by that process would be possibly some sticking of the edge of the perforation in the metal sheet to the side of the rivet which is a mere incident of the invention and there is no welding of the superposed plane surfaces or opposed

faces of the plates to one another by welds disposed
over such plane faces.

Klihu Thomson

Subscribed and sworn to before me }
this 30th day of November, 1908. }

John A. McManus, Jr.

Notary Public

SEAL

Div. 26 Room 105

2-200

Paper No. 19.

Address only
 "The Commissioner of Patents,
 Washington, D. C."

All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

PH

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON, D.C., December 14, 1908.

MAILED

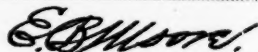
Adolph F. Rietzel,

Care, Townsend & Decker,

141 Broadway, New York, N. Y.

your

Please find below a communication from the EXAMINER in charge of the application of-
 for Method of Electric Welding, filed Feb. 24, 1905, Serial No.
 247,081.



Commissioner of Patents

G-2001

In response to amendment of November 30, 1908.

Claim 1 is rejected as unpatentable over Benardos et al,
 363,320, May 17, 1887, Class 219, Sub-class 15, or either of the
 French patents to Egel, 336,187, and 335,889, both in Class 219,
 Welding.

Claim 2 is objectionable because of the expression "confining
 the flow of current to said spots" implies the use of apparatus
 such as a pointed electrode. The claim is therefore misleading
 as applied to the method described by the applicant. A similar
 objection is made to the expression "localizing the pressure in
 and confining the flow of current", in claim 4; "localizing the
 heating current", in claim 7; "confining the welding area of such
 current", in claim 8; and "confining the area of heating", in claim 14.

Claims 2 to 7, inclusive, are rejected on either of the
 French patents cited above.

Claims 9 and 11 are rejected as differentiating from Hunter
 of record only by a negative limitation.

Claim 17 is objectionable as an article claim inasmuch as the
 last portion of the claim beginning "that when the welding
 electric current etc" relates to the method of forming the arti-
 cle. A similar objection is made to claims 18, 19, 20 and 22.

Claims 16, 17, 18, 20, 21, 22 and 23 are rejected as presenting nothing patentable over Benardos, cited above, or either of the French patents cited above.

The article defined by claim 19 is not the article which would result from the process set forth in claims 4 and 8 and is a different species from the article defined by claim 23. Claim 19 defines an article in which the plane surfaces are not in contact, whereas in the article defined by claim 23 and resulting from the process set forth in claims 4 and 8 the plane surfaces are in contact. Restriction to a single species is therefore required.

HL

A. P. Shaw Ex

1790

MAIL ROOM
MAR 13 1909
U.S.PATENT OFFICE

Serial No.247,081 Paper No. 20
Affidavit

(Printed letter head omitted.)

New York, March 12, 1909.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of A. F.
Rietzel for Composite Sheet Metal Structure, filed Feb-
ruary 24, 1905, S. N. 247,081:

We are sending you by Adams Express the spec-
imens referred to in the affidavit of Adolph F. Rietzel
dated February 18, 1909 and filed with an amendment in
the above case dated March 3rd, 1909.

Very respectfully,

Adolph F. Rietzel

By Townsend & Decker

Attys.

1791

MAIL ROOM
MAR 13 1909
U.S.PATENT OFFICE

U.S.PATENT OFFICE
MAR 15 1909
DIVISION 26

IN THE UNITED STATES PATENT OFFICE.

**
--**--

In the matter of the application for patent
of Adolph F. Rietzel, S. N. 247,081, filed February
24th, 1905, for Electric Welding:

AFFIDAVIT.

County of New York }
State of New York } ss:

ADOLPH F. RIETZEL, being duly sworn, deposes
and says, that he is the applicant that filed the above
entitled application for patent;

That prior to the 18th day of February, 1904,
he repeatedly, successfully practised the method of
fastening two sheets of metal together face to face by
welding them at spots in their meeting surfaces by con-
fining the heating electric current passed from one
plate to the other in such spots and localizing the
welding pressure at said spots, as claimed broadly in
said application;

That the work of so uniting such sheets of
metal was done at the factory of the Thomson Electric
Welding Company at Lynn, Massachusetts, on a Welding
Machine of a commercial type known as type 10 A Welder;

That said Machine was the same in construction
as the machine known as type 5 A Welder but of larger
size and was identical with that shown on the attached

1792
page removed from a catalogue of the Thomson Electric Welding Company, which page is identified and marked "Page of Catalogue, D. M. Edsall, N. P.";

That the accompanying pieces of work marked "Specimen No. 1, D. M. Edsall, N. P." and "Specimen No. 2, D. M. Edsall, N. P." are duplicates of work as done by him on that Machine prior to the 18th day of February, 1904, but that the original specimens were not preserved;

That in doing such work he employed a pointed electrode, the same in form as the accompanying electrode marked for identification "Welding Electrode, D. M. Edsall, N. P.", which Electrode was clamped in one of the holders of the machine and was used to apply the localized pressure and heating current to the plates which were welded together at spots in their superficial area, the opposite or backing electrode being a block of metal which was flat and of a superficial area, approximating the area of the plates which were welded together and which opposite electrode was clamped in the opposite holder of the machine;

That in this operation the two plates superposed upon one another were inserted between said electrodes and the pressure and heating current localized as claimed were applied by forcing the pointed electrode against the outside face of the plates and pressing them between said pointed electrode and the opposite flat electrode, current being at the same time passed from one electrode to the other and pressure being applied by employing the usual devices forming a part of the machine and used in the ordinary operation of the machine for applying welding pressure to

the work;

That work was repeatedly and successfully done in this manner upon various sizes and pieces of metal plates, none of which however, are now in existence so far as affiant has been able to discover;

That the work done by him as aforesaid, demonstrated the complete success of the operation and that metal plates could be successfully and firmly united together by distinct or isolated electric welds forming welded spots of union in their meeting faces and constituting in effect a successful substitute for a union of the same by a number of rivets.

Adolph F. Rietzel

Subscribed and sworn to before me this 18th day of February, 1909.

David M. Edsall

Notary Public

N.Y. Co.

SEAL

SOME ADVANTAGES OF ELECTRIC WELDING.

1. **The Homogeneous Nature of the Weld:** When the weld is made, the structure of the metal at the joint is the same as elsewhere.

2. **Absolute Control Over the Heat:** By simple appliances the metal can be held at any temperature desired for any length of time, and the heat increased or decreased at will.

3. **The Welding Process can be Continually Watched:** The metal while heating is visible instead of being covered with coal or hidden by flame, as in the forge process.

4. **Avoiding Flaws:** THE UNION COMMERCIAL AT THE INTERIOR OF THE JOINT, and not in an uncertain way; consequently, any possible flaw can be easily discovered and prevented.

5. **Rapidity:** The process is almost instantaneous with small sections, while with larger sizes it requires but little time, depending upon the horse-power used.

6. **Flexibility of the Process:** Applying as it does to various kinds and forms of metal, including those which have, heretofore been united only by brazing.

7. **Accuracy:** The welds are kept in perfect line by the clamps during the operation.

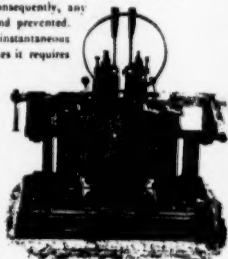
8. **Localization of Heat at the Weld:** Consequently, no heating effect elsewhere.

9. **Cleanliness:** The apparatus can be used in any convenient or desirable place and makes no dirt or litter.

10. **No Blistering or Scaling:** The heat is confined to the welded joint.

11. **Lighting:** By using the necessary transformer, incandescent lamps can be used when the current is not required for welding purposes.

Simple and easy in operation; the current used is so regulated that no shocks, even of the slightest kind, are possible. No labor and time; also, no material.



TYPE 50 WELDER Cover off.
For light iron, straight-ways, angles or round-ways.
Maximum Capacity, 30 1/2 lbs. iron or steel.
Transformer, 1 1/2 hp. 25 amp. vol.
Approximate Weight 525 lbs.

Did you ever stop to think what you can do with electric welding that you can't do with any other welding method?

Page of Catalogue

D. M. Edwards
W. P.

MAIL ROOM
MAR 13 1909
U.S. PATENT OFFICE

U.S. PATENT OFFICE Serial No. 247,081 Paper No. 22
MAR 16 1909
"E"
U.S. PATENT OFFICE DIVISION 26

U.S. PATENT OFFICE
MAR 15 1909
DIVISION IV.

New York, March 3rd, 1909.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of
Adolph F. Rietzel for Composite Sheet Metal Struc-
ture, filed Feb. 24, 1905, S. N. 247,081;

Please amend as follows:

✓ Erase paragraph beginning at the third
line from the bottom on page 1 of the substitute
specification filed November 24, 1906 and ending
on line 2 of page 2, and substitute the following:

"Briefly stated, the invention consists
in electrically welding pieces together in spots
definitely located in and involving a portion only
of their meeting surfaces, by the application of
pressure and heating current localized in such spot
or spots.

By the terms "weld" and "electric weld"
as herein employed, I refer to that process of welding
in which the metal is brought to plastic condition
by passing an electric current from one to the
other of two pieces where they are in contact and
is welded while in such condition by the application
of pressure, as contra-distinguished from a process
of uniting metals, which is described in a Patent to
Bernardos, No. 363,320, dated May 17, 1887,^{and} in which
the union is effected by melting the metal by an arc

p¹

and which is different from "welding" in the ordinary sense of the term as applied to metal manufactures, in that the metal is heated beyond the point of plasticity and pressure is not employed."

Erase beginning with line 13, page 2, to the end of line 23, same page and substitute:

p²

"A weld formed according to my invention is distinguished however from such prior welds by the fact that the opposed surfaces are welded together in spots only, the heating electric current being localized or confined in any desired way to such spots so that the major portion of the opposed surfaces will not be involved in the welding, although they may, after the completion of the operation, lie in contact with one another or very close together."

Erase claim 1 and substitute:

p³

"1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots."

In claim 2, before "passing", line 5, insert: "and".

Line 6, same claim, erase the word "and" and substitute: "while".

Claim 4, line 5, erase the word "and" before the word "localizing" and substitute: "while".

Claim 4, line 4, before "passing" insert

"and".

✓ In claim 4 erase the words "and the areas immediately surrounding the same".

✓ To claim 6 add the following: "completely surrounding said spot".

✓ In claim 7, before "passing", line 5, insert "and".

✓ In claim 7, line 6, change "and" to "while".

✓ In claim 8, line 5, erase the word "and" to gether with the comma immediately preceding the same and substitute: "while".

✓ In claim 8 erase the words "and the areas immediately surrounding the same".

✓ In claim 9 erase the words "will not extend into one another from one spot to the next" and substitute: "will be separated from one another by unwelded areas".

✓ In claim 11 erase the words "spots separated by well defined areas of no welding" and substitute: "isolated spots".

✓ Before the word "spots", line 9, claim 11, insert "contact".

✓ In claim 14 after the word "spot", line 9, insert "entirely surrounded by unheated areas".

Erase claim 16 and substitute:

1788

E⁵

Erased

Per F

"16. "Composite metal work having its component pieces welded together in spots only on their opposed or meeting surfaces and by pressure applied at said spots while in plastic condition, thus producing a union of the metal in spots separated from one another by distinct areas which are unwelded, as and for the purpose described."

✓ Erase claim 17 and substitute:

E⁶

F

F

16 "17. "Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the back of said plates being practically unaffected and the spots on the meeting surfaces being separated from one another by distinct unwelded areas".

✓ Erase claim 18 and substitute:

X⁷Sub. F³

"18. Metal plates arranged face to face and fastened together on their plane surfaces by a number of distinct or isolated pressure formed electric welds involving metal of said plates heated to welding temperature on their meeting sides only and at spots on said surfaces separated from one another by distinct surrounding areas of unwelded metal, as and for the purpose described."

✓ In claim 20, after "plates", line 4, insert:

X⁸ Per F

"heated to the welding temperature on the meeting portions or surfaces of said plates only".

✓ Erase claim 21 and substitute:

X⁹

Per F

"21. Composite metal work comprising superposed plates secured together by an electric weld-

sur

ing of the same on their opposed faces by distinct spots of welded union formed by pressure and reduction of the metal at such spots to plastic condition, said spots being isolated or separated from one another by distinct surrounding areas unwelded on such meeting faces."

In claim 22, line 2, erase the words "welded to one another on their opposed faces" and substitute: "welded by the material of their opposed faces only reduced to welding temperature and".

Erase claim 23 and substitute:

"23. Metal plates electrically welded together by heating current and pressure located in a spot or spots involving the material of their opposed or meeting portions and surrounded by distinct areas of unwelded union, as and for the purpose described."

"24. Sheet metal plates electrically welded together by heating current and pressure at a spot or spots definitely located in and involving the heated material of the opposed or meeting portions of the plates entirely surrounded by distinct areas unwelded, as and for the purpose described."

At the end of the specification insert the following:

"The product of the foregoing process is readily distinguishable from that produced by an electric arc applied at the back of two plates to be joined as proposed in the before mentioned patent of Bernardos by the fact that in my improved product there is no burning of the metal on the back

1800

212

of the plate and the back surface will not be marred but will, when the process is properly conducted, retain a smooth finish, particularly adapting the work for subsequent enameling. The improved product also possesses the advantage, when applied to the sheet metal, that the spots of welding being located within the edges of the meeting surfaces will not show and will not mar the finish of the completed work. The product is also superior to that produced by a riveting of the plates in that there are no rivet heads to mar the finish of the back or outer surface of the metal".

REMARKS :

We file herewith an affidavit establishing completion of the invention on applicant's part prior to the dates of the French patents cited by the Examiner in his last official letter.

The formal amendments to the method claims are those which were agreed upon at the conference with the Examiner on the 26th ultimo, and as we understand, remove the objections raised by the Examiner.

The terms used by applicant are broad and intended to be broad and define the process in the broad terms commensurate with the extent of the invention and they cannot be held to be misleading because they may be of such scope as to cover variations of the broad process claimed. There may be still negative expressions in some of the claims but they are not used in a way that we think can be

held to be objectionable for they express in the most direct and clearest manner possible one of the essential differences between applicant's process and the Hunter process. For instance, in Hunter there are no unwelded areas between ^{the} initial contact spots and this is one of the characteristic differences best expressed it seems to us in the terms that have been employed.

Applicant has claimed not only the process but the product of that process. The process is unquestionably different from that of Bernardos which, as stated to the Examiner in the course of the interview referred to, is not a true welding process, inasmuch as it involves the reduction of the metal to fluidity instead of simply to plastic condition, and does not employ pressure.

The term "welding" is not used by the patentee at all, ^{and} we presume advisedly. It would seem that there are some publications in which the Bernardos process is spoken of as a welding process. The term "welding", so used, is unquestionably a misnomer. In order that, however, there may be no ambiguity in regard to what applicant claims as his invention we have inserted the above reference to the Bernardos patent which makes the distinction obvious and operates as a disclaimer.

The improved product resulting from applicant's process is readily distinguishable by simple inspection from anything that could be produced by the Bernardos arc process. In that process there is necessarily a burning of the outside surfaces of the metal for the arc is applied to the outside,

1802
the heat is localized on the outside, and the melting of the plates on their meeting surfaces can only take place when the fluid condition produced by the arc is extended through the whole body of the metal to the inner surface. There is naturally a burning and roughening of the metal on the outer surface which mars the finish and makes it apparent that the arc process has been used. No such marring and burning exist in applicant's product and to one skilled in the art it would be manifest that the product has resulted from the essential process claimed and recognized by the Examiner as a patentable process. The improved product of the improved process being clearly distinguishable as a product from, and manifestly superior to that of Bernardos, it is clear that the product as well as the process claimed should be allowed.

Respectfully submitted,

Adolph F. Rietzel

By Townsend & Decker

Attys.

1803

Div. 26 Room 105.

2-205

Paper No. 22.

Address only
The Commissioner of Patents,
Washington, D. C.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

PH

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., April 9, 1909.

MAILED

Adolph F. Rietzel,

Care, Townsend & Decker,

141 Broadway, New York, N. Y.

your

Please find below a communication from the EXAMINER in charge of the application of
for Method of Electric Welding, filed Feb. 24, 1905, Serial No.
247,081.



Commissioner of Patents.

In response to communication of March 13, 1909.

The word "spot" does not occur in line 9 of claim 14; consequently the matter which the applicant has directed to be inserted after the word "spot" in line 9 of claim 14 has not been entered. Inasmuch as claim 14 has not been amended, the objection to this claim, made in the third paragraph of the office letter of Dec. 14, 1908, has not been overcome, and this objection is repeated.

In claims 16 and 18 to 24, inclusive, the article is defined at least partly by the method of making it. These claims are therefore objectionable.

In line 4 of claim 17, should not "back" be changed to backs?

Throughout the prosecution of this case the more specific claims have read only on Fig. 2 (see claim 7 of the original specification and see present claim 15). The applicant will therefore not be permitted to retain in the case article claims which will not read upon the article produced by the process illustrated in Fig. 2. It is not believed that claim 17 will read upon the article produced by the method illustrated in Fig. 2 because it does not appear that the backs of the plates would be unaffected in this process. The cancellation of claim 17 is therefore required.

In claim 19 it is not clear what the following phrase refers to, viz. "comprising raised electric contact spots etc.".

The language of claim 19 implies that the plane surfaces of the metal of the plates are not in contact. Therefore the article defined by this claim will not result from the processes set forth by some of the other claims in the case, e. g. claims 4 and 8, in which it is specified that the plane surfaces of the metal plates meet. This claim is also alternative to claims 16, 17 and 18. Restriction to a single species is required.

The word "reduced" in the phrase "reduced to welding temperature" in the insertion in line 2 of claim 22 is evidently an inappropriate term.

A. F. Shaw Ex

HL

U.S. PATENT OFFICE APPLICATION ROOM Serial No. 247,081 Paper No. 23
MAY 7 1909 MAY 7 1909
DIVISION 26 U.S. PATENT OFFICE "P"

New York, May 6th, 1909.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of
Adolph F. Rietzel for Uniting the Component Parts
of Composite Sheet Metal Structure, filed February
24, 1905, S. N. 247,081;

In reply to the Examiner's letter dated
April 9, 1909, please amend as follows:

Erase matter inserted by the last amend-
ment at the end of the specification and substitute
the following:

"The product of the foregoing process is
readily distinguishable from that produced by melt-
ing down the metal of the pieces from the back at
spots as proposed in the before mentioned patent
of Bernardos in that there is no substantial alter-
ation of condition of the metal back of the welds
appearing as a burning, roughening or disintegration
of the material by the very great heat of the elec-
tric arc employed for melting down the metal, and by
the further fact that the unions themselves in the
material of the juxtaposed or opposite faces have the
characteristics of a true weld produced by bringing the
metal to welding temperature only and applying pres-
sure, so that the pieces are solidly and firmly uni-
ted and cannot be readily torn apart as they could
be if the metal at the spots has been melted down under

the high temperature of the electric arc.

"The product in the form of sheet metal is further particularly useful for sheet metal ware since the outer or exposed surface of the metal will have the smooth and practically unaltered finish of sheet metal and said surface will not be substantially marred when the process is properly conducted, excepting for the presence of such infrequent small depressions as might remain from the previous indentation of the metal from the back when, as heretofore described, an indenting of the metal may be resorted to.

"The product in sheet metal also possesses the advantage that the spots of welding ^{when} being located within the edges of the meeting surfaces of each ~~entirely-surrounded-by-unwelded-areas~~, will not show. The produce is also superior to that produced by riveting of the plates in that there are no rivet heads to mar the finish of the back or outer surfaces of the metal."

✓ Erase "separated from one another" in claim 5, line 8, and substitute "entirely surrounded".

✓ In claim 8, line 8, erase "between" and substitute "around".

✓ In claim 14 1.3 change "point" to "points"

k In claim 14, line 8, after the word "spot" first occurrence

insert "entirely surrounded by areas unheated to welding temperature".

✓ In claim 14, 1. 5 cancel "point or"

✓ Erase claim 16.

✓ In claim 17 erase the word "unaffected", line 8, and substitute "unaltered in their metallic

condition". In line 4 of the same claim change the word "back" to "backs".

Change the ordinal of claim 17 to 16.

Erase claims 18 to 24 inclusive and substitute:

"17. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only, each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

"18. Composite metal work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

"19. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered over said spot, as and for the purpose described."

REMARKS:

The applicant, by the foregoing, has confined his claims to the product to four claims each of which, it is thought, clearly avoids the technical objection raised by the Examiner and an immediate allowance is respectfully requested.

Respectfully submitted,

A. F. Rietzel

By Townsend & Decker

Attorney.

1809

Div. 26 Room 105.

2-200

Paper No. 24.

Address only
 "The Commissioner of Patents,
 Washington, D. C."

All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
 UNITED STATES PATENT OFFICE

WASHINGTON, D.C., May 10, 1909.

MAILED

Adolph F. Rietzel,

Care, Townsend & Decker,

141 Broadway, New York, N.Y.

your
 Please find below a communication from the EXAMINER in charge of the application of-
 for Method of Electric Welding, filed Feb. 24, 1905, Serial
 No. 247,081.

E. B. Woods.

Commissioner of Patents.

6-5031

In response to communication of May 7, 1909.

This case appears to be ready for issue, but in view of a
 possible interference, action is withheld until June 1, 1909,
 at which time applicant is requested to call the case up for
 action.

A. P. Shaw Ex

HL

1810
MAIL ROOM
MAY 28 1909

U.S. PATENT OFFICE 247,081 Paper No. 25
MAY 29 1909
U.S. PATENT OFFICE DIVISION 26.

Letter

New York, May 27, 1909.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of
A. F. Rietzel for Method of Electric Welding, filed
February 24, 1905, S. N. 247,081:

It is requested that action upon this
case in its present status be suspended for a period
of twenty days from June 1st, 1909.

Very respectfully,

Townsend & Decker

Attorneys for Applicant.

Div. 25 Room 10th.

2-260

1811
Paper No. 26.

Address only
The Commissioner of Patents,
Washington, D. C.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

PH

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., May 29, 1909.

MAILED

Adolph F. Rietzel,

Care, Townsend & Decker,

141 Broadway, New York, N. Y.

Please find below a communication from the *EXAMINER* in charge of *the* application of
your
for Method of Electric Welding, filed Feb. 24, 1905, Serial
No. 247,081.

E. B. Moore.

Commissioner of Patents.

In response to communication of May 28, 1909.

In compliance with the request contained in the communication
mentioned above, action on this case is suspended until June 21,
1909, at which time applicant is requested to call the case up
for action.

A. P. Shaw Ex

HL

1812
MAIL ROOM
JUN 16 1909
U.S. PATENT OFFICE DIVISION 26.

U.S. PATENT OFFICE
JUN 18 1909

247,081 Paper No. 2
"G"

New York, June 15th, 1909.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the application of Adolph
F. Rietzel for Uniting the Component Parts of Composite
Sheet Metal Structures, filed February 24, 1905, S. N.
247,081;

✓ In reply to office letter dated April 9, 1909,
please amend as follows:

G In the last paragraph of the matter substituted
at the end of the specification by amendment filed May
7th, erase the words "being located" and substitute
"when located".

In the same paragraph erase the words "or each
entirely surrounded by unwelded areas".

In claim 7, line 11, erase the word "compar-
atively".

REMARKS:

It is respectfully requested that the above
amendment be approved and that action with regard to the
probable interference be further postponed until July
10th.

Respectfully submitted,

A. F. Rietzel

By Townsend & Decker

Atty's

1813
Div. 26 Room 105.

Address only
The Commissioner of Patents,
Washington, D. C.

2-260

Paper No. 28.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

PH

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D.C., June 19, 1909.

MAILED

Adolph F. Rietzel,

Care, Townsend & Decker,

141 Broadway, New York, N. Y.

your
Please find below a communication from the EXAMINER in charge of the application of
for Method of Electric Welding, filed Feb. 24, 1905, Serial No.
247,081.

E. B. Moore.

Commissioner of Patents.

In response to communication of June 16, 1909.

In compliance with the request contained in the communication
mentioned above, and in accordance with the oral direction of the
Assistant Commissioner of Patents, action on this case is suspended
until July 21, 1909. No consideration will be given to any re-
quest for further postponement.

Applicant is requested to call the case up for action after
July 21, 1909.

A. P. Shaw Ex

HL

1814

APPLICATION ROOM
JUN 23 1909
U.S.PATENT OFFICE

U.S.PATENT OFFICE 247,081 Paper No. 29
JUN 23 1909 "H"
DIVISION 26

New York, June 19th, 1909.

Hon. Commissioner of Patents,

Washington, D. C.

Sir:

In the matter of the application of A. F. Rietzel for Uniting the Component Parts of Composite Sheet Metal Structures, filed February 24th, 1905, S. N. 247,081:

✓ Please amend as follows:

H ✓ In line 11, page 2, of the amendment dated November 24th, 1908, erase "welding" and substitute "uniting".

✓ In the last line of claim 3 erase "fusion and welding" and substitute "union".

✓ Add the following claim 20:

H'
T. & D.

"20. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and welded autogenous union, the metal at the spots of welded union having substantially the same qualities as at other points."

Respectfully submitted,

A. F. Rietzel

By Townsend & Decker

Attorneys.

1815

ADDRESSES ONLY
THE COMMISSIONER OF PATENTS,
WASHINGTON, D. C.

K.O'D.

2-181

Serial No. 247,081.

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

Adolph F. Rietzel, Assor. WASHINGTON, D.C., June 24, 1909.
% Townsend & Decker,
#141 Broadway, New York, N. Y.

Sir: Your APPLICATION for a patent for an IMPROVEMENT in
Uniting the Component Parts of Composite Sheet Metal Structures,
filed Feb. 24, 1905 has been examined and ALLOWED.

The final fee, TWENTY DOLLARS, must be paid not later than
SIX MONTHS from the date of this present notice of allowance.
If the final fee be not paid within that period, the patent on
this application will be withheld, unless renewed with an
additional fee of \$15, under the provisions of Section 4897,
Revised Statutes.

The office delivers patents upon the day of their date, and
on which their term begins to run. The printing, photolitho-
graphing, and engrossing of the several patent parts, prepara-
tory to final signing and sealing, will require about four weeks,
and such work will not be undertaken until after payment of the
necessary fee.

When you send the final fee you will also send, DISTINCTLY
AND PLAINLY WRITTEN, the name of the INVENTOR and TITLE OF
INVENTION AS ABOVE GIVEN, DATE OF ALLOWANCE (which is the date
of this circular), DATE OF FILING, and, if assigned, the NAMES
OF THE ASSIGNEES.

If you desire to have the patent issue to ASSIGNEES, an
assignment containing a REQUEST to that effect, together with
the FEE for recording the same, must be filed in this office on
or before the date of payment of final fee.

After issue of the patent uncertified copies of the drawings
and specifications may be purchased at the price of FIVE CENTS
EACH. The money should accompany the order. Postage stamps
will not be received.

Final fees will NOT be received from other than the appli-
cant, his assignee or attorney, or a party in interest as shown
by the records of the Patent Office.

Respectfully,

E. B. Moore.

Commissioner of Patents.

IN REMITTING THE FINAL FEE GIVE THE SERIAL NUMBER AT THE HEAD OF THIS NOTICE.

UNCERTIFIED CHECKS WILL NOT BE ACCEPTED.

1816✓

\$20-RECEIVED

JUN 24 1909 H

2-327.

CHIEF CLERK U.S. PATENT OFFICE

MEMORANDUM

OF

FEE PAID AT UNITED STATES PATENT OFFICE.

(Be careful to give correct Serial No.)

Serial No. 247,081 191

INVENTOR:

Adolph F. Rietzel

PATENT TO BE ISSUED TO

Thomaen Electric Welding Co.

NAME OF INVENTION, AS ALLOWED:

Uniting the Component Parts of

Sheet Metal Structures

DATE OF PAYMENT:

June 24, 1909

FEE:

\$20.00 (Final)

DATE OF FILING:

Feb. 24, 1905

DATE OF CIRCULAR OF ALLOWANCE:

The Commissioner of Patents will please apply the accompanying fee as indicated above.

Townsend & Decker

Attorneys

SEND PATENT TO

Townsend & Decker

141 Broadway

N. Y.

1817

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON, D. C., June, 25, 1909

Adolph E? Rietzel, Assor,

PATENT WILL ISSUE
JUL 20 1909

c/o Townsend & Decker,
141 Broadway,

New York, N. Y.

Sir:

You are informed that the final fee of TWENTY
DOLLARS has been received in your application for
Improvement in

Uniting the component parts of composite sheet metal
structures,

Date of receipt

June 24, 1909

Very respectfully,

E. B. Moore.

Thomas Ewing
Commissioner of Patents.

1818 INTERFERENCE.

Interference No. 31792

Paper No. 30

Name, Adolph F. Rietzel

Serial No. 247,081

Title, Uniting the Component Parts of Composite Sheet Metal Structures.

Filed, Feb. 24, 1905

Interference with Johann Harmatta.

DECISIONS OF

Primary Examiner, Dated,

Ex'r of Interferences, Adverse Dated, Aug. 7/12.

Board, Dated,

Commissioner, Dated,

REMARKS:

This should be placed in each application or patent involved in interference in addition to the interference letters
by Primary Examiner.

1819

Examination Date Dec 26
Examiner of Interferences

2-912

VCC

Paper No. 2 31

Apr. 14, 1910.

[INTERFERENCE.]

DEPARTMENT OF THE INTERIOR,

(Copies mailed patentees UNITED STATES PATENT OFFICE, U.S. PATENT OFFICE
and assignee.) WASHINGTON, D. C., INTERFERENCE DIVISION
APR 26 1910
MAILED

180

Adolph F. Rietzel, (Assor to Thomson Electric Welding Company,
c/o Townsend & Decker, of Lynn, Mass., a corp,
of Maine.)

141 Broadway, New York City.

Please find below a copy of a communication from the Examiner concerning your
application for "Uniting the Component Parts of Composite Sheet
Metal Structures", filed Feb. 24, 1905, Serial No. 247,081, Pat'd
July 20, 1909, Patent No. 928,701.

Very respectfully,

Room No. 105.

All communications should be addressed to
"The Commissioner of Patents,
Washington, D. C."

E. B. Moore,
Commissioner of Patents.

31792

Your case, above referred to, is adjudged to interfere with others, hereafter specified,
and the question of priority will be determined in conformity with the Rules.

The statement demanded by Rule 110 must be sealed up and filed on or before the
27 day of JUN 1910, 190... with the subject of the invention,
and name of party filing it, indorsed on the envelope. The subject-matter involved in the
interference is

INVENTION.

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.
2. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and, simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets at spots entirely surrounded by areas of no union.
3. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surfaces a well-defined and comparatively extensive area of no union completely surrounding said spot.
4. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas.
5. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only,

each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

6. Composite material work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

7. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered over said spot, as and for the purpose described.

8. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and autogenous welded union, the metal at the spots of welded union having substantially the same qualities as at other points.

The interference involves your patent above identified, and

An application for "Electric Welding", filed by Johann Harmatta, whose post office address is Szepeasvaralja, Hungary, and whose attorneys are O. E. Duffy & Son, of 612 F Street, N. W., Washington, D. C.

The relation of the counts of the interference to the claims of the respective parties is as follows:

<u>Counts:</u>	<u>Rietzel:</u>	<u>Harmatta:</u>
1	1	2
2	5	3
3	6	4
4	16	5
5	17	6
6	18	7
7	19	8
8	20	9

If the interference is decided against Harmatta all the claims now in the case will be rejected as not patentable over the issue.

A. P. Shaw Ex

Van Nest

Div. 3 Room 17

2-260

Paper No. 32

Address only
"The Commissioner of Patents,
Washington, D. C."

All communications respecting this
application should give the serial number,
date of filing, and title of invention.

Jun. 12, 1911

(Copies sent patentee and assignee)

DEPARTMENT OF THE INTERIOR

U.S. PATENT OFFICE

UNITED STATES PATENT OFFICE INTERFERENCE DIVISION

WASHINGTON

JUN 13 1911

MAILKD

RAH

Adolph E. Rietzel,

Rietzel

#31792.

C/o Townsend and Decker,

Harmatta.

149 B'way, New York City.

your

Please find below a communication from the EXAMINER in charge of the application of

247,081, filed Feb. 24, 1905:---

Method of Electric Welding.

21792

E. B. Moore

Commissioner of Patents

The following counts have been added to the above
entitled interference:---

9. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

10. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

11. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

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Interf. Rietzel-----2

The preliminary statement required by Rule 110, as to the added counts only, should be filed on or before AUG 14 1911

The relation of the added counts of the interference to the claims of the respective parties is as follows:---

Counts	Rietzel	Harmatta
9	2	10
10	3	11
11	4	12

Wm J Rich,

Examiner, Division 3.

1823

#10- REC'D
JUN 12 1915 Ck A
C.C.U.S.PAT.OFFICE

(Printed letter head omitted.)

NEW YORK June 11th 1915.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

We enclose herewith Disclaimer to the United States
patent of Adolph F. Rietzel for Uniting the Component Parts of
Composite Sheet Metal Structures No. 928,701, dated July 20th 1909

We also enclose herewith our check for \$10.00 to cover
the government fee.

Very respectfully,
Townsend & Decker.

FBT/IL

Enc.

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MAIL ROOM
JUN 12 1915
U.S. PATENT OFFICE

Hon. Commissioner of Patents,
Washington, D. C.

DISCLAIMER.
- - - - -

Your Petitioner, the Thomson Electric Welding Company, a corporation organized and existing under the laws of the Commonwealth of Massachusetts, respectfully represents:

That your Petitioner, the Thomson Electric Welding Company, is the present owner of United States Patent No. 928,701, for Uniting the Component Parts of Composite Sheet Metal Structures, issued July 20th 1909, to the Thomson Electric Welding Company, a corporation duly organized under the laws of the State of Maine as assignee of Adolph F. Rietzel;

That your Petitioner has reason to believe that through inadvertence, accident or mistake, and without any fraudulent or deceptive intention, the patentee, in said Letters Patent, has claimed more than that of which he was the original or first inventor or discoverer.

Your Petitioner therefore hereby enters its disclaimer to that part of the invention described in said patent which is set forth in the specification in the following words;

"Briefly stated, the invention consists in electrically welding pieces together in spots definitely located in and involving a portion only of their meeting surfaces, by the application of pressure and heating current localized in such spot or spots."

except when that process is carried out by the preferred method of providing conducting projections or points be-

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tween the meeting surfaces of the pieces to be united;
and its disclaimer to that part of the claim in the specification which is in the following words:

"1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

"2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

"3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

"4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

"5. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and, simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets at spots entirely surrounded by areas of no union.

"6. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surfaces a well-defined and comparatively extensive area of no union completely surrounding said spot.

"16. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas.

"17. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only, each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

"18. Composite metal work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

"19. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered over said spot, as and for the purpose described.

"20. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and autogenous welded union, the metal at the spots of welded union having substantially the same qualities as at other points."

In Testimony Whereof your Petitioner has
President
caused these presents to be signed by its Secretary and
its corporate seal to be affixed this 1st day of
June, 1915.

Thomson Electric Welding Company

By Benjamin F. Spinney
Secretary.
President.

The Universal Electric Welding
Company hereby assents to the above disclaimer.

Universal Electric Welding Co.

By Chas H Hyde
Vice President

June 10, 1915.

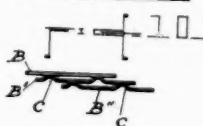
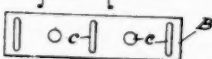
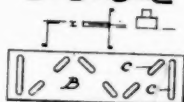
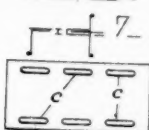
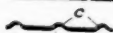
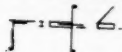
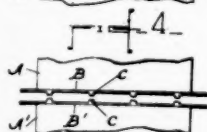
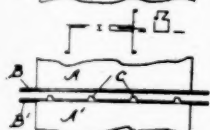
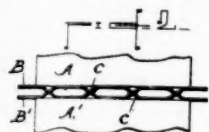
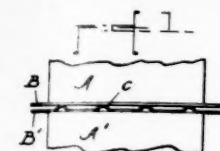
A. F. RIETZEL.

UNITING THE COMPONENT PARTS OF COMPOSITE SHEET METAL STRUCTURES.

APPLICATION FILED FEB. 24, 1905.

928,701.

Patented July 20, 1909.



WITNESSES:
Edw. H. ...
Edward ...

INVENTOR
 Adolph F. Rietzel.
 BY
Thomson & Decker
 ATTORNEYS

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UNITED STATES PATENT OFFICE

ADOLPH F. RIETZEL, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THOMSON ELECTRIC WELDING COMPANY, OF LYNN, MASSACHUSETTS, A CORPORATION OF MAINE.

UNITING THE COMPONENT PARTS OF COMPOSITE SHEET-METAL STRUCTURES.

No. 925,701.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed February 24, 1905. Serial No. 947,041.

To all whom it may concern:

Be it known that I, ADOLPH F. RIETZEL, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts; (with post-office address Lynn, Massachusetts,) have invented certain new and useful Improvements in Uniting the Component Parts of Composite Sheet-Metal Structures, of which the following is a specification.

My invention relates to the manner of uniting or fastening two pieces of metal to one another and its object is more particularly to afford a substitute for the manner of uniting pieces of metal as heretofore practiced in the art of electric welding.

As applied to sheet metal manufactures the object is to afford a cheap and practical substitute for riveting and other methods of mechanically securing the two pieces of metal together. As applied to this branch of the metal working arts, the invention affords a means whereby articles of composite sheet metal manufacture may be made up by fastening the pieces of metal constituting the structure with a perfectly secure union and by a process that can be economically conducted.

Briefly stated, the invention consists in electrically welding pieces together in spots definitely located in and involving a portion only of their meeting surfaces, by the application of pressure and heating current localized in such spot or spots.

By the terms "weld" and "electric weld", as herein employed, I refer to that process of welding in which the metal is brought to plastic condition by passing an electric current from one to the other of two pieces where they are in contact and is welded while in such condition by the application of pressure, as contra-distinguished from a process of uniting metals, which is described in a patent to Bernardos, No. 363,320, dated May 17, 1887, and in which the union is effected by melting the metal by an arc and which is different from "welding" in the ordinary sense of the term as applied to metal manufactures, in that the metal is heated beyond the point of plasticity and pressure is not employed.

It has been before proposed to electrically

weld two rods of metal together by a butt-welding process, the area of union effected being substantially coextensive with the cross-section of the pieces at their meeting ends, that is to say, the weld has been made over substantially the whole area of the opposed portions of said pieces. It has also been proposed to make a lap joint between the ends of two strips of metal by electrically uniting them together over substantially the whole area of the lapping surfaces. A weld formed according to my invention is distinguished however from such prior welds by the fact that the opposed surfaces are welded together in spots only, the heating electric current being localized or confined in any desired way to such spots so that the major portion of the opposed surfaces will not be involved in the welding, although they may, after the completion of the operation, lie in contact with one another or very close together.

My invention is particularly valuable in fastening of pieces of sheet metal together because not only does it limit the amount of electric energy required very considerably as compared with the prior methods of union, but it also diminishes the liability to burning of the metal which is liable to occur when the attempt is made to form a union of two sheets of metal by an electric welding process over substantially the whole area of the meeting or opposed surfaces.

In carrying out my invention any desired number of spots of union may be employed, such number depending obviously upon the extent of the meeting surfaces which are to be fastened together and also upon the strength of the union desired.

In carrying out my invention the localization of the flow of heating electric current and of welding pressure to the desired spot or spots may be brought about in any desired way. One of the preferred ways is by providing between the meeting surfaces or portions of the pieces to be united suitable conducting projections or points at the spots of union, which projections or points carrying the heating electric current from one piece to the other are so located in the meeting surfaces and are so separated from one another that on the application of the weld-

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ing pressure the welded union resulting will be localized in the area of the opposed surfaces and will be substantially coextensive in area with the restricted area of the path of the effective heating current. Various ways of providing such points or projections will occur to those skilled in the art.

The preferred method is to indent the metal from the side reverse to that on which the union is effected by a suitable tool, the projections thus formed affording points for the passage of the electric current. This method is preferable also because it permits the welding to be produced at a multiplicity of spots simultaneously through the application of pressure over the whole rear surface of the plate, the points or projections in that case serving not only to localize the flow of the heating current but also to localize the welding pressure.

In the preferred manner of carrying out my invention in the case of sheet metal manufacture I provide projections from the meeting surfaces of both pieces that are to be united. Said projections may also be provided by interposing between the two plane sheets small pieces of conducting material which act in the same manner when the sheets are brought together, as projections which localize the heating current and the pressure. It will be understood, however, that in the latter instance as in the former, these pieces are so small and are placed such a distance apart that on the application of welding pressure there will be no running of the welds into one another but that the final union will be in spots only leaving well-defined areas on the meeting surfaces, in which the surfaces either lie in contact or separated from one another by a very thin space.

From the foregoing it will be seen that my invention is distinguished from prior methods of welding pieces of metal together in that it may be very cheaply practiced, because no attempt is made to weld over the whole of the opposed surfaces of the welded pieces; but on the contrary the union is at a spot or spots only which in ordinary cases will afford as strong a union as would be produced by the riveting of the pieces.

The invention further has the advantage that not nearly so much electric energy is required as is necessary when the electrically welded union extends over the whole area of the opposed surfaces. Moreover, the danger of burning when the attempt is made to weld two sheets of metal together by a lap weld is largely eliminated.

In the accompanying drawings Figures 1, 2, 3, 4 and 5 illustrate some of the ways in which the pieces of metal to be united may be prepared for the welding according to my invention. Figs. 6, 7, 8, and 9 show modifications in the form and disposition of the contact projections which result in the spots

of electrically welded union. Fig. 10 shows the assembling of three plates together for welding according to my invention.

In the various figures of the drawing the invention is illustrated as carried out with two sheets of metal B, B'. In Fig. 1, plate B' only is provided with the distinct or isolated spots (c) or projections for the flow of the electric current, to the plate B, which spots or points may be formed by indenting the plate with a suitable tool. The spots are located so far from one another that on the application of pressure coincidently with the flow of electric current from one plate to the other there will be a number of distinct areas or spots of electrically welded union of the plates separated by well-defined areas on the meeting surfaces in which no union takes place. The resultant is however a fastening of the plates together securely and which is practically as effective as if the attempt were made to form a welded union over the entire areas of the meeting surfaces. Obviously, the greater the distance between the spots the lesser the number that would be used and hence the lesser the consumption of energy in effecting the weld. This is of considerable importance where the meeting areas are large or where a considerable amount of work has to be done. The welding pressure is conveniently applied by conducting blocks or electrodes, A, A', between which the two pieces B, B' are assembled. These electrodes, A, A', furnish the heating current while applying the pressure, the localization of the pressure in the spots being brought about in this instance by the pointing of the surfaces at point c.

In Fig. 2 both plates are provided with projections the points of which engage with one another, the pointing being produced by indenting the metal sheets from the rear.

Fig. 3 illustrates the localization of the welding by casting projections upon one of the sheets and Fig. 4 by casting projections on both pieces. The localization of the welding in spots might be effected as illustrated in Fig. 5 by interposing small pieces of metal at the spot or spots of desired union, these pieces operating when the plates are brought together in the same way as the projections before referred to. The number and size of the pieces and their distance apart is in this case, as before, so chosen that the application of pressure together with the flow of heating current from one plate to the other will result in a union of the two pieces over their opposed surfaces in spots only thereon.

Fig. 6 shows how the spots might be disposed to fasten the pieces together in distinct spots around their edges.

As shown in Figs. 7 and 8 the projections, instead of being round, might be somewhat elongated and irregularly or symmetrically arranged.

Fig. 9 shows round and somewhat elongated projections combined.

In all these instances however, the union over the surfaces of the plates is confined to spots or areas which are of comparatively small extent as compared with the total area of the meeting surfaces. As will be obvious, the form and disposition of the points or projections of initial contact for flow of the electric current and localization of the pressure may be greatly varied without departing from my invention.

Fig. 10 illustrates the welding of three plates of sheets together when superposed.

My invention is especially useful in the manufacture of articles from sheet metal which are stamped out to different forms, and which have heretofore had their component portions united by riveting or other purely mechanical expedient which is not only expensive but requires generally special tools and results in many cases in an insecure union. When the invention is employed in its preferred form or manner of practice in the field of sheet metal manufacture all that is necessary is to provide the contact spots or projections as already described and then to assemble the pieces in an electric welding machine and weld them together as already set forth.

The product of the foregoing process is readily distinguishable from that produced by melting down the metal of the pieces from the back at spots as proposed in the before mentioned patent of Bernardos in that there is no substantial alteration of condition of the metal back of the welds appearing as a burning, roughening or disintegration of the material by the very great heat of the electric arc employed for melting down the metal, and by the further fact that the unions themselves in the material of the juxtaposed or opposite faces have the characteristics of a true weld produced by bringing the metal to welding temperature only and applying pressure, so that the pieces are solidly and firmly united and cannot be readily torn apart as they could be if the metal at the spots has been melted down under the high temperature of the electric arc.

The product in the form of sheet metal is further particularly useful for sheet metal ware since the outer or exposed surface of the metal will have the smooth and practically unaltered finish of sheet metal and said surface will not be substantially marred when the process is properly conducted, excepting for the presence of such infrequent small depressions as might remain from the previous indentation of the metal from the back when, as hereinbefore described, an indenting of the metal may be resorted to.

The product in sheet metal also possesses the advantage that the spots of welding when located within the edges of the meeting

surfaces will not show. The product is also superior to that produced by riveting of the plates in that there are no rivet heads to mar the finish of the back or outer surfaces of the metal.

What I claim as my invention is:

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

5. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and, simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets at spots entirely surrounded by areas of no union.

6. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surfaces a well-defined and comparatively extensive area of no union completely surrounding said spot.

7. The method of welding two pieces of metal together, consisting in superposing said pieces with their surfaces at which the union is to take place superposed or pre-

sented to one another, pressing the pieces together, and passing a heating electric current from one to the other while localizing the heating current simultaneously in a number of distinct or separate spots of limited area, separated from one another sufficiently to secure a union of the pieces in a number of corresponding distinct spots surrounded by and separated from one another by distinct areas in which no union exists.

8. The method of uniting two pieces of metal, consisting in providing between their meeting surfaces a number of projections, spaced apart as described, pressing the pieces together and passing an electric current through said projections while confining the welding area of such current to said projections so as to leave distinct areas around spots in which no welding shall be produced.

9. The method of fastening two plates of metal together at a multiplicity of distinct or separate points of welded union, consisting in providing between them a number of isolated contact spots adapted to pass an electric current from one to the other but so separated that the electric welds will be separated from one another by unwelded areas, passing a heating electric current through such spots simultaneously and applying pressure as and for the purpose described.

10. The herein described method of electrically welding two plates or sheets of metal of any gage together by distinct spots of union disposed over their plane surfaces, consisting in providing a multiplicity of electrical contact spots coincident with the separated spots of union and disposed at such distances apart that there will be well-defined areas between spots through which the electric current will not flow, passing electric current from one plate to the other through said contact spots simultaneously and applying pressure as and for the purpose described.

11. The method of fastening two sheets of metal together, consisting in providing between them a number of isolated contact spots for the passage of the electric welding current, said spots being adapted to initially hold the plates apart and being separated from one another a sufficient distance to confine the welding to distinct areas or isolated spots, passing a heating electric current through a number of said contact spots simultaneously and pressing the plates together as and for the purpose described.

12. The method of fastening two plates of metal together, consisting in furnishing a surface of said plates with a number of projecting contact spots for the passage of welding electric current and disposed at such distances apart that on the application of pressure the welds will not run into one another,

superposing said plates, passing a heating electric current from one to the other over said separated spots and applying the pressure to produce a spot-welding of the plates to one another as and for the purpose described.

13. The herein described method of fastening two pieces of metal together by providing each plate with a number of projecting contact spots on its plane surface disposed at such distances apart that the unions will not run into one another but will, nevertheless, firmly hold the plates together, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other through the spots and simultaneously applying pressure thus uniting the plates at a number of distinct points of welded union.

14. The method of uniting two sheets of metal face to face, consisting in indenting the material, superposing the plates with the points of the indentations engaged, passing an electric current from one plate to the other through said points simultaneously, and applying pressure while confining the area of heating to welding temperature to a circumscribed area or spot entirely surrounded by areas unheated to welding temperature to unite the pieces in a distinct spot or spots of small extent in the whole area of the opposed faces.

15. The herein described method of fastening two plates together at a multiplicity of distinct mechanically separated points of welded union, consisting in indenting each plate to form a number of projecting contact spots on the plane surfaces which are to abut, superposing said plates with the projecting spots in simultaneous engagement with one another, passing a heating electric current from one plate to the other thereby forming a number of distinct zones or points of heated metal, heated to welding temperature, and applying pressure to complete the union of plates by a number of mechanically distinct unions.

16. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas.

17. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only, each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

18. Composite metal work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

19. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered

over said spot, as and for the purpose described.

20. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and autogenous welded union, the metal at the spots of welded union having substantially the same qualities as at other points.

Signed at Lynn in the county of Essex and State of Mass. this 7th day of Feb. A. D. 1905.
ADOLPH F. RIETZEL.

Witnesses:

EDWIN W. HAWES
E. I. FOSTER.

DISCLAIMER.

928,701.—Adolph F. Rietzel, Lynn, Mass. UNITING THE COMPONENT PARTS OF COMPOSITE SHEET-METAL STRUCTURES. Patent dated July 20, 1909. Disclaimer filed June 12, 1915, by the assignee, *Thomson Electric Welding Company*. Enters this disclaimer to that part of the invention described in said patent which is set forth in the specification in the following words:

"Briefly stated, the invention consists in electrically welding pieces together in spots definitely located in and involving a portion only of their meeting surfaces, by the application of pressure and heating current localized in such spot or spots"—except when that process is carried out by the preferred method of providing conducting projections or points between the meeting surfaces of the pieces to be united; and also enters its disclaimer to that part of the claim in the specification which is in the following words:

"1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

"2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

"3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

"4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

"5. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and, simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets at spots entirely surrounded by areas of no union.

"6. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surface a well-defined and comparatively extensive area of no union completely surrounding said spot.

"16. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas.

"17. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only, each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

"18. Composite metal work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

"19. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered over said spot, as and for the purpose described.

"20. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and auto-genous welded union, the metal at the spots of welded union having substantially the same qualities as at other points."—(*Official Gazette*, June 22, 1915.)

CONTENTS:

Print

- | | Application | papers. |
|-------|----------------------|----------------|
| 1. | Rejection | Apr. 12, 1905 |
| 2. | Amendt A | Oct. 18, 1905 |
| 3. | Rejection | Oct. 24, 1905. |
| 4. | Sub. Spec. | Oct. 23, 1906 |
| 5. | Rej. | Nov. 9-1906 |
| 6. | Amendt B | Nov. 19-1906. |
| 7. | Rej. | Dec. 5-1906. |
| 8. | Appeal Mem. | Nov. 30-1907 |
| 9. | Letter | Dec. 9-1907 |
| 10. | Amendt "C" | Dec. 18-1907. |
| 11. | Final Rej. | Jan. 27-1908. |
| ✓ 12. | Letter | Jan. 30-1908 |
| ✓ 13. | Letter | May 28, 1908 |
| 14. | Letter | June 8- 1908 |
| 15. | " | " 16 " |
| ✓ 16. | Amd't. "D" & Affdts. | Nov. 30, 1908 |
| 17. | Letter | Dec. 2, " |
| 18. | Affidavit | Dec. 9, 1908 |
| 19. | Rejection | " 14 " |
| ✓ 20. | Affidavit | Mar. 13, 1909. |
| ✓ 21. | Amdt. "E" | " " " |
| ✓ 22. | Letter (÷) | April 9, 1909 |
| 23. | Amd't "F" | May 7, " |
| ✓ 24. | May 10, 1909 | Letter |
| ✓ 25. | " 28, " | Letter |
| ✓ 26. | " 29, " | Letter |
| ✓ 27. | June 16, " | Amd't "G" |

✓ 28.	"	19	"	Letter
✓ 29.	"	23	"	And't "K"
30.				Intf. Card.
31.	APR 26 1910			Intf. Letter.
32	JUN 13 1911			" "

TITLE:

Improvement in Uniting the Component
Parts of Composite Sheet Metal Structures

20 Claims

1836

2—390.

UNITED STATES OF AMERICA,

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

To All whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records of this Office of the File Wrapper and Contents, in the matter of

INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

Subject-Matter:—

ELECTRIC WELDING.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 14th day of September, in the (Seal) year of our Lord one thousand nine hundred and seventeen and of the Independence of the United States of America the one hundred and forty-second.

R. F. WHITEHEAD,

6—1625

Acting Commissioner of Patents.

Vol. 33
Page 222

1910

Vol. 57
Page 222

INTERFERENCE No. 31,792.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

Pat. No. 928,701.

Sr. No. 183,677.

ELECTRIC WELDING.

DIVISION 15.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

April 14, 191 .

Examiner of Interferences:

An interference is found to exist between the following cases, and in respect to the invention therein specified, to wit:

CASES.

1. Name Adolph F. Rietzel.
Post-office address Lynn, Massachusetts.
Title Uniting the Component Parts of Composite Sheet Metal Structures.
Filed Feb. 24, 1905. Ser. No. 247,081. Pat'd July 20, 1909.
No. 928,701.
Attorneys Townsend & Decker, of 141 Broadway, N. Y. City
Assignee Thomson Electric Welding Co., of Lynn, Mass.
2. Name Johann Harmatta.
Post-office address Szepesvaralja, Hungary.
Title Electric Welding.
Filed Dec. 3, 1903. Ser. No. 183,677.
Attorneys O. E. Duffy & Son, of 612 F St., N. W., Washington, D C.

Intf. Number 31792
Intf. Declared Apr 26 1910
Statements Due 27 Jun 1910.

(For redeclaration see paper No. 48.)

6—2610

INVENTION.

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

2. The method of uniting two sheet metal pieces together face to face, consisting in pressing them together, and simultaneously with the pressure, passing an electric current from one to the other at isolated or distinct spots in the areas lapping or opposed, said spots being separated from one another by such a distance that there is a union of the sheets at spots entirely surrounded by areas of no union.

3. The method of uniting sheets of metal by pressing them together and at the same time passing a heating and welding current from one to the other at a spot on their meeting surfaces which is restricted in area throughout the operation so as to leave on the meeting surfaces a well-defined and comparatively extensive area of no union completely surrounding said spot.

4. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas.

5. Sheet metal work comprising pieces of sheet metal welded together in the material of their meeting surfaces and in spots only, each surrounded by distinct areas of unwelded union, the back surfaces of said pieces being substantially unaltered over the welded spots, substantially as and for the purpose described.

6. Composite metal work having its component pieces welded together in spots only involving the material of their opposed or meeting surfaces, said spots being each entirely surrounded by distinct areas of unwelded union and the portion of the pieces back of the welds being substantially unaltered, as and for the purpose described.

7. Metal work comprising a metal plate fastened on its surface to the opposed surface of another piece of metal by a weld at a spot only in the material of the opposed surfaces, said spot being surrounded by a distinct area of unwelded union and the back surface of said plate being practically unaltered over said spot, as and for the purpose described.

8. A metal article comprising two bodies of metal having adjacent plane surfaces united at a plurality of spaced and isolated spots of integral and autogenous welded union, the metal at the spots of welded union having substantially the same qualities as at other points.

The relation of the counts of the interference to the claims of the respective parties is as follows:

<i>Counts:</i>	<i>Rietzel:</i>	<i>Harmatta:</i>
1	1	2
2	5	3
3	6	4
4	16	5
5	17	6
6	18	7
7	19	8
8	20	9

If the interference is decided against Harmatta all the claims now in the case will be rejected as not patentable over the issue.

(Counts compared.)

A. P. SHAW, *Ex.*

Van Nest

Printed Letter Head Omitted.

Docket Clerk,
May 9, 1910.
U. S. Patent Office.
Mail Room,
May 9, 1910.
U. S. Patent Office.

31792—2

New York, May 7th, 1910.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of Interference No. 31,792, between patent No. 928,701, dated July 20th, 1909, of A. F. Rietzel and an application filed by Johann Harmatta for Electric Welding:

Kindly change our address as attorneys in the above case to 149 Broadway, to which address all communications should be forwarded.

Very respectfully,

TOWNSEND & DECKER.

CFT/IL

REGISTRY DELIVERY NOTICE.

Office Hours,
30 A. M.—7 P. M.

Lynn, Mass.,
May 26, 1910.
Registered.

..... Post Office.

M....Adolph Rietzel.....

Present this Notice at the Post Office or Station indicated by postmark, and receipt for a registered (Letter) No. addressed to you.

Postmaster:

Dated,, 190

{ *forward }
Please { deliver { the registered mail described above to

.....
.....*Addressee.*

I verify addressee's signature above.

.....

2-224.—M.C.V.

Paper No. 4.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

June 1, 1910.

Mailed " " "

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 31,792.

RIETZL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

E. B. MOORE,

Commissioner of Patents.

6-1652

The letter in which the notice of this interference was mailed to Adolph F. Rietzel, the patentee, addressed Lynn, Mass., has been returned by the Postoffice undelivered. The attorneys for Rietzel are requested to inform the Office on or before June 11, 1910, of the present address of Rietzel in order that the notice of interference may be forwarded to him as the rule requires.

H. E. STAUFFER,

Examiner of Interferences.

Printed Letter Head Omitted.

Mail Room.

31,792-5

June 4, 1910.

U. S. Patent Office.

Docket Clerk,

June 4, 1910.

U. S. Patent Office.

New York, June 3rd, 1910.

Hon. Commissioner of Patents,

Washington, D. C.

Sir:

Re Interference Rietzel vs. Harmatta No. 31,792:

Replying to the office letter dated June 1st, 1910, the present address of A. F. Rietzel, the patentee, is Charlestown, Rhode Island.

Notice of the receipt of the registered letter, as per enclosed slip, was received by Mr. Rietzel; but at the time he called at the post-office in Lynn the letter had been returned to the Patent Office.

Very respectfully,

TOWNSEND & DECKER.

CFT/IL

Enc.

2—224.—S.O.W.

Paper No. 6.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

June 8, 1910.

Mailed " " "
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES

IN RE INTERFERENCE NO. 31,792.

HARMATTA.

vs.

RIETZEL

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

E. B. MOORE,

6—1652

Commissioner of Patents.

A letter is received from the attorneys for the patentee, Rietzel, stating that the present address of Rietzel is Charlestown, Rhode Island. Accordingly the notice of declaration of this interference for the party Rietzel which was heretofore returned by the Post-office is hereby re-sent to him by registered mail at the address hereinabove given.

H. E. STAUFFER,

Examiner of Interferences.

31,792—7

UNITED STATES PATENT OFFICE.

Statement of Rietzel.

Filed June 14, 1910.

Approved July 2, 1910.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

W.

("W" in margin.)

PRELIMINARY STATEMENT OF ADOLPH F. RIETZEL.

County of New London, State of Connecticut, ss:

ADOLPH F. RIETZEL of Charlestown, County of Washing-

ton and State of Rhode Island, being duly sworn, doth depose and say that he is a party to the interference declared by the Commissioner of Patents on the 26th day of April, 1910, between the patent of Adolph F. Rietzel, No. 928,701, dated July 20th, 1909, and an application for a similar invention filed by Johann Harmatta;

That he conceived the invention set forth in the declaration of interference during the latter part of October or first part of November, 1897;

That, as near as deponent can at this time fix the date, the invention was successfully reduced to practice in the latter part of July 1898, and at the same time was first explained and disclosed to others;

That sketches of the application of the invention were made in the early part of June 1904 and from time to time since that date innumerable sketches have been made of the invention as applied to various articles of manufacture;

That the invention has been put to very extensive use in the manufacture of numerous sheet and other metal work of various kinds.

ADOLPH F. RIETZEL.

Sworn to before me this 7 day of June, 1910.

ALBERT S. MARTIN,

(Seal)

Notary Public.

2-207.

31,792-8

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

June 14, 1910.

BEFORE THE EXAMINER OF INTERFERENCES.

In the matter of the Interference of

HARMATTA

vs.

RIETZEL.

INTERFERENCE NO. 31,792.

Sir:

You are hereby informed that the preliminary statement of Rietzel has been received and filed.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,

Chief Clerk.

6-2051

Rietzel

c/o Townsend & Decker,
149 Broadway,
New York, N. Y.

31,792—9.

REGISTRY RETURN RECEIPT.

Received from the postmaster at.....
(Letter)

Registered { Letter {
ING, D. C., { Parcel { No. 575493, from Post Office at WASH-

Addressed to
June 10, 1910 Mr. A. F. Rietzel.

A. A. SAUNDERS...

Charlestown, R. I.,
June 10, P. M., 1910.

Post Office Department
Official Business.

Penalty for Private Use to Avoid Payment of Postage, \$800.
Return to: Patent Office

Return to: Patent Office.

Name of Sender
 Street and Number,)
 or Post Office Box)
 Washington, D. C.

31,792—10

Docket Clerk.
June 20, 1910.

Statement of Harmatta.
Filed June 20, 1910.

U. S. Patent Office.

Approved July 2, 1910.
W.

("W" in margin.)

INTERFERENCE IN THE UNITED STATES PATENT OFFICE.

J. HARMATTA

U.S.

A. F. RIETZEL.

No. 31,792.

PRELIMINARY STATEMENT OF JOHANN HARMATTA.

Johann Harmatta, Engineer, a subject of the King of Hungary, residing at Szepesváralja, in the Kingdom of Hungary, being duly affirmed, deposes and says that he is a party to the interference declared by the Commissioner of Patents on April 26th, 1910, between his application for patent of the United States, filed December 3rd, 1903, serial number 183,677, for "*Improvements in Electric Welding*", and the patent to Adolph F. Rietzel, of Lynn, Massachusetts, granted July 20th 1909, numbered 928,701, for

"Uniting the Component Parts of Composite Sheet-Metal Structures"; that he conceived the invention set forth in the declaration of interference at the end of the year 1900, without having had then the opportunity of carrying out said invention for lack of time; that on or about the 15th day of September 1901, as he set working his own manufactory at Szepesváralja, he first made drawings of the device for carrying out the process set forth in the claims involved in the interference; that in the first days of October 1901 he modified an old chain-welding machine so as to be able to carry out said process as set forth in the claims involved in the interference; that on the 15th of to the 20th day of October 1901, he had thin iron sheets welded and attachments welded upon sheet metal vessels successfully and on a manufacturing scale by his workmen Michael Hozza and Michael Tomaskiewicz, with the help of the process forming the object of the claims involved in the interference; said two workmen, which live here at Szepesváralja and which remember very well to have performed the said work at the mentioned time, being ready to give testimony in respect of the above facts; that in the course of November 1901 he mentioned said electric weldings of thin iron sheets to Mr. Hegenscheidt, Director General of the firm "Oberschlesische Eisenindustrie A. G." (Upper Silesian Iron Industry Company of share-holders) at Gleiwitz, Silesia, Germany, in the presence of the Chief-Engineer of said Mr. Hegenscheidt, Mr. Wilhelm Fischer, which is at present Director, and that said gentleman promised to inform the firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz, Silesia, Germany, about the said electric weldings of thin iron sheets; that the firm "Eisenhütte Silesia" received said information from said gentlemen, but raised doubts about the possibility of electrically welding such thin iron sheets without danger of burning through said metal sheets; that said firm "Eisenhütte Silesia", for the sake of verification, sent during the summer of the year 1902, to him (Harmatta) several blanks of sheet metal utensils, which he (Harmatta) welded, with the help of the process forming the object of the claims involved in the interference, to the thorough satisfaction of said "Eisenhütte Silesia", that then Mr. Schweisfurth of Paruschowitz, technical Director of the firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz, Silesia, Germany, came to him in order to look at the electric weldings and the modified chain-welding machine; and, as said Mr. Schweisfurth had convinced himself by ocular proof that it is very easy to weld such thin iron sheets with the help of the process forming the object of the claims involved in the interference, the said firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz acquired the property of said process by a contract made with him (Harmatta) at the date of February 12th, 1902, and that from the month of January 1903 a great number of full-size machines adapted to carry out the welding process forming the object of the claims involved in the interference have been manufactured by said "Eisenhütte Silesia" for personal use and sale to others; the first new and full-

size machine of this kind having been completed in the last days of January 1903 and first successfully operated and used in February 1903 for carrying out his process, in the works of the "Eisenhütte Silesia", in the village of Paruschowitz, Silesia, (Germany).

That patents for such invention were applied for and obtained as follows:

Application filed in Germany, March 24th, 1903, published June 20th, 1904, patent not granted;

application filed in Sweden, October 12th, 1903, patent dated October 12th, 1903, No. 24035; published the 16th day of November 1907 and granted the 23rd day of January 1908;

application filed in France, October 13th, 1903, patent dated October 13th, 1903, No. 336187; published the 1st Day of March 1904 and granted the 7th day of January 1904;

application filed in Austria, October 14th, 1903, patent dated August 1st, 1905, No. 24335; published the 8th day of January 1905 and granted the 30th day of March 1906;

application filed in Denmark, October 14th, 1903; published May 16th, 1905, patent not granted;

application filed in Luxemburg, October 14th, 1903, patent dated October 15th, 1903, No. 5300; published the 14th day of October 1903 and granted the 14th day of October 1903;

application filed in Hungary, October 15th, 1903, patent dated October 15th, 1903, No. 31382; published the 29th day of April 1904 and granted the 24th day of August 1904;

application filed in Switzerland, October 15th, 1903, patent dated October 15th, 1903, No. 29723; published June 21st, 1905 and granted the 21st day of June 1905;

application filed in Belgium, October 16th, 1903, patent dated October 16th 1903, No. 173119; published the 20th day of January 1904 and granted the 31st day of October 1903;

application filed in Russia, October 20th, 1903, patent not granted;

application filed in Spain, October 20th, 1903, patent dated December 10th, 1903, No. 32726; published the 10th day of December 1903 and granted the 10th day of December 1903;

application filed in Italy, October 22nd, 1903, patent dated October 22nd, 1903, No. 180/117; published the 16th day of December 1903 and granted the 16th day of December 1903;

application filed in Great Britain, October 23rd, 1903, patent dated October 23rd, 1903, No. 22981/1903; published the 20th day of October 1904 and granted the 25th day of August 1904;

application filed in Canada, December 4th, 1903, patent not granted;

application filed in Canada, December 4th, 1903, patent not granted;

application filed in Japan, December 14th, 1903, patent dated April 6th, 1905, No. 8640; published the 6th day of April 1905 and granted the 6th day of April 1905;

application filed in Romania, July 11th, 1906, patent not granted.

That such invention was fully described in the following patent specifications; Sweden No. 24035; France No. 336187; Austria No. 24335; Hungary No. 31382; Switzerland No. 29723; Great Britain No. 22981/1903; Japan No. 8640.

The knowledge of such invention was first introduced in the United States on December 3rd, 1903 by the papers belonging to said U. S. application of Harmatta, serial number 183,677, for "Improvement in Electric Welding", filed December 3rd, 1903, said application papers having been sent by applicant to Messrs. Marion & Marion at Montreal, Canada, who filed said application to the United States Patent Office on December 3rd, 1903.

JOHANN HARMATTA.

American Consulate General, Budapest, Hungary, ss:

N. S. 272/1910.

Subscribed and affirmed to before me this 8th day of June, 1910.

(Seal)

F. E. MALLIN,

Foreign Fee Stamp

Vice and Deputy Consul General.

M/C.

Paper No. 11, not in File.

S. O. W

2—215.

Paper No. 12.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

July 2, 1910.

Mailed " " "

Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

E. B. MOORE,
Commissioner of Patents.

The parties to the above-entitled interference are hereby notified that their preliminary statements are approved, and that testimony must be taken, forwarded, and printed in accordance with the published Rules of Practice of the office.

The dates of filing and the serial numbers of the applications are given, and the times for taking testimony and for final hearing are set as follows:

No testimony to be taken within thirty days from date hereof.

Adolph F. Rietzel filed February 24, 1905, No. 247,081; patented July 20, 1909, patent No. 928,701.

Testimony in chief to close October 3, 1910.

Johann Harmatta filed December 3, 1903, No. 183,677.

Testimony to close November 3, 1910.

Rietzel's rebuttal testimony to close November 18, 1910.

Final hearing January 18, 1911, at 11 a. m.

H. E. STAUFFER,
Examiner of Interferences.

31792—13.

Printed Letter Head Omitted.

Docket Clerk.

July 6, 1910.

U. S. Patent Office.

Attorneys' Room.

July 6, 1910,

U. S. Patent Office.

New York, July 5th, 1910.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the matter of the Interference Rietzel vs. Harmatta, No. 31,792:

Please permit Joseph R. Edson of Washington, D. C., to inspect the file wrapper and contents of the Harmatta application Serial No. 183,677, involved in the above interference and make copies thereof. Also permit the said Joseph R. Edson to inspect the preliminary statement filed by Harmatta and make copies.

Very respectfully,

TOWNSEND & DECKER,
Attys. for Rietzel.

CFT/IL

Authority to Make Copies.

Docket Clerk.

July 6, 1910.

U. S. Patent Office.

Attorneys' Room.

July 6, 1910,

U. S. Patent Office.

July 6, 1910.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

Please permit Misses A. M. and E. H. PARKINS, Washington

Loan & Trust Building, Washington, D. C., to examine and make copies in Interference of Rietzel vs. Harmatta #31,792.

Improvement in
Filed
and oblige,

Serial No.

Respectfully,

JOSEPH R. EDSON,
H.
Attorney.

Docket Clerk.
Sept. 9, 1910.
U. S. Patent Office.

31792—14.

Mail Room.
Sept. 9, 1910.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

New York, September 6, 1910.

Messrs. O. E. Duffy & Son,
612 F Street, N. W.,
Washington, D. C.

SIRS:—

PLEASE TAKE NOTICE that on Wednesday, September 14, 1910 at 10 o'clock A.M. or as soon thereafter as counsel may be heard before the Examiner of Interferences, we shall move to transmit the accompanying motion for dissolution of this Interference to the proper primary Examiner for his determination and shall also move for a stay of proceedings pending the final determination of said motion.

In support of the motion to transmit we shall refer to the annexed affidavit of Chas. F. Tischner, Jr.

TOWNSEND & DECKER,
Attorneys for Rietzel.

AFFIDAVIT OF SERVICE.

State of New York, County of New York, ss:

FREDERICK S. BORDEN, being duly sworn, deposes and says; that he is a Clerk in the office of Messrs. Townsend & Decker, 149 Broadway, New York; that on Wednesday, September 7, 1910, he deposited with the Post-Office authorities at New York City, N.Y. and caused to be sent prepaid by registered mail, a sealed envelope addressed to Messrs. O. E. Duffy & Son, 612 F. Street, N.W. Washington, D. C., as per attached registry slip, which envelope contained a copy of the accompanying motion papers.

FREDERICK S. BORDEN.

Subscribed and sworn to before me this 8th day of Sep., 1910.

WALTER C. KANE,

(Seal)

Notary Public, New York County.

Postmaster, per.....

Letter)

Parcel) No. 23451 P. O., Hudson Terminal Station, New York,
N.Y.

Received for registration....., 190 , from.....

Townsend & Decker

addressed to O. E. Duffy & Sons

Wash D. C.

.....class postage prepaid Postmaster per.....

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

MOTION FOR TRANSMISSION.

Now comes Adolph F. Rietzel, by his duly authorized attorneys, and moves that the Honorable Examiner of Interferences transmit the accompanying motion for dissolution of this Interference to the proper primary Examiner for his determination and in support thereof beg to refer to the accompanying affidavit of Chas. F. Tischner, Jr.

It is also moved that a stay of proceedings be granted pending the final determination of said motion.

TOWNSEND & DECKER,
Attorneys.

New York, N. Y., Sept. 6, 1910.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

In re Interference:

ADOLPH F. RIETZEL,

vs.

JOHANN HARMATTA.

No. 31,792.

AFFIDAVIT.

CHAS. F. TISCHNER, Jr., being duly sworn, deposes and says, that he is a member of the firm of Townsend & Decker, 149 Broadway, N.Y., the attorneys of record for the party Rietzel in the above Interference; that on the 5th day of July, 1910, said firm received a communication by mail from the Examiner of Interferences dated July 2, 1910, the date of mailing and which was a Saturday, stating that the preliminary statements of the parties in the above Interference were approved and setting times for taking testimony; that on that day, namely July 5th, the said firm ordered from the Commissioner of Patents a certified copy of the file wrapper, contents and drawings of the application of Harmatta involved in the above Interference; that said certified copy was not received by said firm until the 3rd day of August, 1910; that immediately upon receipt of said copy deponent examined into it and found that it was not complete in that prints of two sheets of drawings filed in the case and subsequently cancelled were not included in the copy; that therefore on that day, namely August 3rd, said firm returned the copy to the Commissioner of Patents together with a letter calling attention to the incompleteness of the copy and requesting that the two additional prints be added; that said corrected certified copy was not received to the best of deponent's knowledge and belief by the said firm until late in the day on the 11th day of August, it having been mailed by the Patent Office on the 10th day of August; that at that time deponent, who has had this case in charge, was engrossed in a number of important cases demanding immediate attention and which could not be postponed; that said cases necessitated deponent making two sepa-

rate out of town trips; that at the earliest moment thereafter deponent took up the thorough examination of the Harmatta file wrapper; that the said file wrapper is somewhat lengthy and consumed considerable time in thoroughly digesting it; that the file wrapper appears to be much confused and considerable time was consumed in trying to reconcile the line numbers of the various substitute specifications with the line numbers designated in various amendments as lines to be amended; that besides other numerous amendments three complete substitute specifications and claims were filed which necessarily consumed considerable time in consideration; that the substance of the present motion was practically decided upon the latter part of the month of August, but owing to the intervening holidays and the great press of business in deponent's office taking testimony it was not possible to get the motion papers in proper shape for service until the present time; that no testimony has been taken in the above interference; that no other motions to deponent's best knowledge and belief have been brought in this interference and that the motion is made in good faith and not for purposes of delay.

CHAS. F. TISCHNER, JR.

Sworn to and subscribed before me this 7th day of September, 1910.

(Seal) WALTER C. KANE,
Notary Public, New York County.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE PRIMARY EXAMINER.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

MOTION TO DISSOLVE.

Now comes ADOLPH F. RIETZEL, a party to the above entitled Interference, by his attorneys and moves that the Interference be dissolved on the following grounds:

FIRST, that the party Harmatta has no right to make the claims forming the subject of the Interference for the reason that he disclaimed the subject-matter of the counts of the Interference in his substitute specification filed May 14, 1904, beginning with the

paragraph "As Fig. 1 shows" on page 2 and again repeated the disclaimer by his amendment to said specification filed May 18, 1906, and he did not withdraw said disclaimer by merely complying with the Examiner's requirement when he insisted on said requirement that "the description should be confined to applicant's process of welding and not to a discussion of prior processes and their disadvantages."

SECOND, that the party Harmatta has no right to make the claims forming the subject of the Interference for the reason that there is no patentable different between carrying out any process of welding by applying pressure before and during the period of supplying the electric current and by applying pressure only at the moment of the electric current supply as stated at lines 4-10 on page 1 of Harmatta's original specification and the applicant Harmatta by his amendments eliminating the method consisting in applying pressure only at the moment of current supply has disclaimed that method as his invention and therefore has no right to make any claim founded upon the use of pressure and current.

THIRD, that the party Harmatta has no right to make the claims forming the subject of counts 4, 5, 6, 7 and 8 of the issue of this Interference for the reason that he has not filed the oath required by Rule 48 and the Patent Statutes.

TOWNSEND & DECKER,
Attorneys.

New York, N. Y., Sept. 6th, 1910.

Docket Clerk.
Sept. 14, 1910.
U. S. Patent Office.

31792—15.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

NOW COMES Johann Harmatta by his attorneys, and in answer to the motions to transmit and the motion to dissolve the above entitled interference brought by the party Rietzel, states, that the passage referred to as a disclaimer is in no sense a disclaimer of the subject matter of the claims in interference, but as will be seen said passage is simply a statement of the effect of the process of welding

thick or heavy sheets where no pressure is applied to the sheets at the welding point during the welding process. To clearly show that such statement is not a disclaimer attention is directed to last paragraph, page 3 et seq., of the amended specification filed May 14th 1904.

The claims 4, 5, 6, 7 and 8 which it is contended cannot be made by the party Harmatta unless accompanied by a supplemental oath are restricted or limited claims and the subject matter thereof embraces a natural consequential condition which must necessarily obtain when the weld is effected as recited in claim 1.

It would be impossible to weld metal sheets by point or spot welding intermittently or at spots only, as for instance as described in the brief description of original Fig. 1 commencing on last line of page 2 of the original specification unless the resulting welded plates had meeting surfaces separated from one another by distinct unwelded areas, and the welded spots "surrounded by distinct areas of unwelded union." These claims therefore simply recite a structure necessarily resulting from a welding as recited in claim 1, and therefore are not such claims as would fall under Rule 48, and therefore it clearly follows that applicant is entitled to make these claims.

In reply to the contention that the party Harmatta has disclaimed the method by eliminating from his specification the method consisting in applying pressure only at the moment of current supply and therefore has no right to make any claim founded upon the use of pressure and current, is not well taken as this is the gist of Harmatta's invention. When an applicant recites two or more alternatives, all of which are mechanical equivalents, he may cancel one or more of the alternatives from the specification and retain one if he chose without in any way disclaiming the other alternatives, providing of course that they are mechanical equivalents. This was clearly held in the case of Hunt Brothers Fruit Packing Company vs. Cassidy, U. S. Circuit Court of appeals, 62 O. G. 1965. In this case it was held that:

"In Letters Patent #172,608, issued Jan. 25th 1876 to John W. Cassidy for an Improvement in Fruit Driers, the patentee first claimed 'spring or other catches,' but on an objection that his application was not in proper form, amended by striking out 'or other.' Held that this was not a disclaimer of gravity catches, which were known mechanical equivalents of spring catches."

This decision is in accordance with the practice of the Office and does not seem to be open to attack, and applicant in the specification may or may not set forth a number of alternative mechanical equivalents, but should he set forth two or more alternatives which are mechanical equivalents he may cancel one or all of the alternatives and retain one providing they are mechanical equivalents, and

such cancellation from a specification is not a disclaimer of the matter cancelled or of the alternatives cancelled as was clearly held in the above cited case of the Hunt Brothers Fruit Packing Company vs. Cassidy.

It is therefore respectfully submitted that the grounds for transmitting and dissolving the interference are not well taken and that the motions should be dismissed.

Respectfully,

JOHANN HARMATTA,
By O. E. DUFFY & SONS,
Attorneys.

LBF

2—224.

Paper No. 16.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

September 17, 1910.
Mailed “ “ “
Interference Division.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6—1652

E. B. MOORE,
Commissioner of Patents.

This is a motion by Reitzel to transmit to the Primary Examiner a motion to dissolve.

The motion to transmit is opposed, but the opposition relates rather to the merit of the motion than to its transmission.

The motion to dissolve comes after the time allowed by the rules therefor, but the excuse for the delay is clearly sufficient.

The motion to dissolve alleges; (1) that Harmatta has no right to make the claims of the issue become of an alleged disclaimer in

his specification; (2) that Harmatta has no right to make the claims of the issue for certain other reasons specifically set forth; and (3) that said party has no right to make the claims because of the absence of the supplemental oath required by Rule 48.

It is believed that the questions raised under Sections (1) and (2) are such as should be passed upon by the Primary Examiner. The question raised under heading (3) however forms no proper basis for dissolving the interference. It has been repeatedly held that the question of the sufficiency of the oath, either the original oath or a supplemental oath, is an *ex parte* matter which may be readily adjusted after the interference shall have been determined. The motion, therefore, can not be transmitted as to this ground.

The motion to transmit is granted as to grounds (1) and (2). The motion to transmit is denied as to ground (3).

Limit of appeal: September 27, 1910.

The taking of testimony is suspended.

H. E. STAUFFER,
Examiner of Interferences.

Mail Room.

Sept. 23, 1910.

U. S. Patent Office.

Intf. No. 31,792. Paper No. 17.

Docket Clerk.

Sept. 23, 1910.

U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

INTERFERENCE NO. 31,792.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

APPEAL TO THE COMMISSIONER.

The party Rietzel to the above interference hereby appeals to the Commissioner of Patents in person from that part of the decision of the Examiner of Interferences rendered September 17th, 1910, refusing to transmit to the Primary Examiner the third ground of the motion to dissolve brought by Rietzel.

The following are assigned as the reasons of appeal:

It was error to refuse to transmit the third ground of the motion to dissolve for the following reasons:

(a) That the question raised is not as to the sufficiency of an oath on file.

(b) That the question as to whether the party Harmatta to the above entitled interference can or cannot make the oath required by the Rules and the Statutes should be settled before the interference is proceeded with.

(c) That the question whether the party Harmatta can or cannot make the oath should be settled before the interference is determined for the reason that if the party Harmatta cannot make the oath required there will be no need to proceed with the contest in reference to the claims involved in the said third ground of the motion to dissolve.

(d) That the question raised by said ground goes to the basic right of the party Harmatta to make the claims involved in some of the counts of the interference and as such should be decided by the Primary Examiner.

ADOLPH F. RIETZEL,
By TOWNSEND & DECKER,
Attorneys.

New York, N. Y., September 22nd, 1910.

Copy. 2—201. 31,792. Paper No. 18.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON,

Sept. 23rd, 1910.

Sir:

The case of

RIETZEL

vs.

HARMATTA,

INTF. No. 31,792,

APPEAL ON MOTION,

will be heard by the Commissioner on the 27th day of October, 1910.

The hearings will commence at ten o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

E. B. MOORE,
Commissioner of Patents.

To all parties.

6—1961.

Docket Clerk.

Oct. 26, 1910.

U. S. Patent Office.

Intf. No. 31,792. Paper No. 19.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE COMMISSIONER OF PATENTS.

In re Interference:

RIETZEL

1.

vs.

HARMATTA.

No. 31,792.

STIPULATION.

It is hereby stipulated and agreed by and between counsel for the respective parties, the Commissioner of Patents consenting, that the hearing on the appeal by Rietzel now set for October 27, 1910 be postponed two weeks from the date now set.

TOWNSEND & DECKER,

C. F. TISCHNER, JR.,

Attorneys for Rietzel.

O. E. DUFFY & SONS,

Attorneys for Harmatta.

New York, N. Y., Oct. 25, 1910.

O 2—201. Intf. No. 31,792. Paper No. 20.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON,

October 26, 1910.

Sir:

The case of

RIETZEL

L

vs.

HARMATTA,

INTF. NO. 31,792,

APPEAL ON MOTION,

will be heard by the Commissioner on the 23d day of November, 1910.

The hearings will commence at ten o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;

Motions, thirty minutes, each side;

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

E. B. MOORE,

Commissioner of Patents.

To all parties.

6—1961.

Printed Letter Head Omitted.

Docket Clerk.
Oct. 26, 1910.
U. S. Patent Office.

Mail Room.
Oct. 26, 1910.
U. S. Patent Office.

New York, Oct. 25, 1910.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:—

In the matter of the interference

RIETZEL,

vs.

HARMATTA.

No. 31,792.

Please enter our appearance as attorneys in the above case.

Respectfully,

TOWNSEND & DECKER,
H. C. TOWNSEND,
C. F. TISCHNER, JR.

Docket clerk.
Nov. 23, 1910.
U. S. Patent Office.

Intf. No. 31,792. Paper No. 22.

UNITED STATES PATENT OFFICE.

ADOLPH F. RIETZEL.

vs.

JOHANN HARMATTA.

INTERFERENCE No. 31,792.

BEFORE THE COMMISSIONER OF PATENTS ON APPEAL FROM THE
DECISION OF THE EXAMINER OF INTERFERENCES.

BRIEF FOR RIETZEL.

This case comes up on appeal by the party Reitzel from that part
of the decision of the Examiner of Interferences dated September

17th, 1910, refusing to transmit to the Primary Examiner the third ground of the motion to dissolve brought by Rietzel.

The part of the original motion to dissolve referred to is as follows:

"Third. That the party Harmatta has no right to make the claims forming the subject of counts 4, 5, 6, 7 and 8 of the issue of this interference for the reason that he has not filed the oath required by Rule 48 and the Patent Statutes."

The Examiner holds that the question raised under this head forms no proper basis for dissolving the interference for the reason that "it has been repeatedly held that the question of the sufficiency of the oath, either the original oath or a supplemental oath, is an ex parte matter which may be readily adjusted after the interference shall have been determined."

The question raised by Rietzel in this section of the motion is not as to the sufficiency of an oath on file nor to whether the subject-matter of the counts in question is broader than the claims originally filed but goes to the basic right of the party Harmatta to make any such claims as are involved in the counts of the interference in question, which counts are for a subject-matter not claimed originally nor claimed by Harmatta at all until inserted for interference purposes. Harmatta has not filed any oath whatever with respect to the subject-matter of the counts above referred to, the counts being drawn to metal articles, sheets or plates secured together in a certain manner, and the question is therefore not as to the sufficiency of an oath on file but rather as to whether Harmatta can in reality make a proper oath as being the inventor of such articles. And to delay the determination of this question until after the determination of the question of priority in the interference amounts to stating that the Patent Office will try a moot case, which proceeding it has been repeatedly held in the Patent Office will not be followed.

The party Reitzel is a patentee, to whom the claims forming the subject-matter of this interference were granted, and the party Harmatta, a subject of the King of Hungary, is an applicant, who, although his case was on file at the time Rietzel's application was pending, never made any claims to an article of any nature whatsoever until after Rietzel's patent issued when, at the suggestion of the Primary Examiner, he copied the claims from Rietzel's patent and entered into contest as to the counts above referred to. Thus, although his application had been on file for over six years, he had never contended that the article now claimed was in any way his invention and when he found claims were granted to another on subject-matter he never contended was his invention he merely copied the claims and inserted them in his application without complying with the requirements of the Statutes as to the filing of an oath and there is nothing to determine whether he could legitimately make such oath and without first determining such question it cannot be conceived how the Patent Office can sanction any

proceeding allowing him to enter into the contest until it is determined whether he can make a proper oath.

The Statute requires the inventor to make oath that he is the original and *first* inventor. There is grave doubt, as will appear from an inspection of Harmatta's file wrapper, whether he can make such a statement under oath. To delay the determination of this question until after the question of priority has been fought out would be to subject the party Rietzel, against whose patent time is running, to great expense, and why the party Rietzel should be compelled to undergo this hardship until it has been determined whether or not Harmatta has any right whatever to contest priority of these claims cannot be conceived.

The Patent Office is assuming, in withholding the requirement of proper oath before proceeding with the interference, that Harmatta could make such proper oath and therefore the contest as to priority should proceed, but there is nothing in the record to indicate that such a state of facts exists but rather it is evident that the reverse condition is present. That the Patent Office takes the view that in general an interference will not be dissolved or suspended where a supplemental or proper oath has not been filed and sets down this doctrine against all cases irrespective of the merits or points of distinction or differences raised and in fact without even considering them and holds to the hard and fast rule without consideration of the merits or the hardships which might be worked thereby or the injustice which might result, certainly seems, to say the least, to be at variance with the orderly practice that all questions respecting the merits should be definitely decided before proceeding with the contest of priority.

Suppose the interference was proceeded with and it was eventually found that Harmatta could not rightfully make all allegations required in the oath, how would the Patent Office justify itself for not having considered this point before allowing Harmatta to contest these claims?

The subject matter of the claims which were originally sworn to by Harmatta as indicating what was properly his invention was a specific method of electric welding limited in scope and a specific apparatus and not metal plates joined at spots in a certain way by *any* electric welding method adapted for the purpose as called for in the claims forming the subject-matter of counts 4, 5, 6, 7 and 8 of this interference.

Although Harmatta describes the result attained by the practice of one form of his invention as being a joining of plates at spots to take the place of rivets, he did not claim this broad result but only claimed a specific method and a particular form of apparatus for carrying out the method as his invention, by the practice or use of which articles according to the above claims in a restricted sense might be obtained, but which could also be attained by other methods not the invention of Harmatta, thus leading to the inference that he did not make this invention broadly and could not

claim it as being his invention but rather he invented a specific method, claimed to be new, for making certain kinds of articles. This view is strengthened by his specific claims to his preferred form of apparatus, in which he claims "rollers," which rollers make a continuous seam weld. This view is still further strengthened by his statement in his substitute specification filed May 14, 1904, as amended May 18, 1906, to wit: "In known processes the electrodes lie opposite each other, the sheets to be welded by the ordinary process being located between them." Any such process as he herein describes as being old in his knowledge, and therefore disclaims, would result in the metal articles specified in the counts 4, 5, 6, 7 and 8 and therefore he admits he cannot make such claims, the subject-matter being, to his knowledge, old. What knowledge he may have had in mind as a basis for this statement is immaterial to the question in issue. Having made this admission that he cannot claim such articles as his invention, he then seeks to entirely wipe out such admission by merely filing unsupported claims without making oath to the various allegations required by the Statutes before he can even be assumed to be regarded as entitled to make them.

The claims in question are so far at variance with the claims originally sworn to that Harmatta should not be permitted to retain them in the Patent Office for the purposes of interference or for other purposes until it is seen whether he can make a proper oath.

The original specification only sets forth that Harmatta claims to be the inventor of a process and an apparatus and his oath was only made on that specification. Under this oath, Harmatta did not claim any article welded together at a spot or spots but merely claimed a *specific* process. Harmatta may in a brief statement, describe the subject of the claims in a narrow or restricted degree but he has never sworn to a proper oath or an oath of any kind with respect to such claims. The subject of such claims might have been disclosed in some patent or application of his filed more than twelve months before filing his application here or Harmatta might have known he was not the first inventor of *articles* according to said claims or he might have been or is aware that such *articles* were known before his invention or he might not have been at that time or now able to make other allegations required by the Statutes so that he cannot make the necessary oath without perjuring himself, he claiming at that time but a specific process and specific apparatus as his invention and not an article which is not limited to being made by such fanciful process and which might be attained by apparatus other than the specific apparatus claimed by him as his invention.

An examination of the authorities which hold that a motion to dissolve should not be transmitted when based on the requirement of a supplemental oath or the sufficiency of an oath reveal that the question was in those cases occasioned merely by an applicant broadening his claims for interference purposes or where the

question as to the sufficiency of the oath was raised. It is submitted that in this case an entirely different question is in issue—here, the applicant filed claims entirely different as to subject-matter from those originally sworn to and no oath whatever for such subject-matter has ever been made by the applicant.

To go back to the original case holding that a motion of a slightly similar nature to that under discussion should not be transmitted, namely, *Rennyson vs. Merritt*, 58 O. G. 1415, it was held:

"The question of whether a supplemental oath shall or shall not be required is *ex parte* in its nature and not open to argument on the part of an opposing interference contestant."

In this case the question arose by one applicant filing broader claims than those originally sworn to but of the same nature. The case is entirely different from the one presented in this interference and to hold that the case just cited is a pertinent authority for following its holding in the present case amounts to saying that insofar as the party Rietzel is concerned it does not matter whether Harmatta can properly make the claims or not; Rietzel cannot argue the question and he must contest priority even though in the end it is found that Harmatta was not properly entitled to make the claims.

This question as to whether Harmatta can make proper allegations under oath is a mighty vital point to the interference owing that he has never established his right to them as required by Statute and it is in this point that the present case differs from all previously decided cases. If Rietzel is not interested in this point and cannot be heard in argument as to why Harmatta should be compelled in this case to file a proper oath it cannot be seen what rights he has got in the interference.

If Harmatta cannot make the necessary oath why should he have the right to contest priority and he should not be allowed to contest priority until it is seen whether he can make the oath and properly assert his rights to the claims in conformity with the requirements of the Statutes.

If the interference is not dissolved with respect to the counts referred to on account of the lack of this oath it should, in justice, be suspended pending the filing or non-filing of such an oath and the party Rietzel should certainly be allowed to argue the merits of his contention regarding the necessity of settling the question of Harmatta's rights in this interference before the proper tribunal, the Primary Examiner, following all requirements of orderly procedure, and to hold, that merely because in previous cases a somewhat similar motion was not transmitted and was lacking in merit, that Rietzel's motion is lacking in merit without even considering the merits that can be advanced in its favor is entirely contrary to a proper and lawful recognition of Rietzel's rights in this interference.

In conclusion, we would say that rather than adhere to the broad proposition, that in no case will a motion to dissolve be transmitted

which is based on the lack of or the sufficiency of an attth irrespective of the merits or the points which demand the filing of such proper oath as vitally affecting the right on one party to enter into the interference, the exigencies of the particular case at issue should be carefully weighed and passed upon. As the practice stands now on this point, a broad rule is followed hard and fast and the justice or injustice will not be considered. It is respectfully submitted that in this case there are ample and sufficient reasons, as set forth above, for departing from such hard and fast holding and for transmitting the part of the motion to dissolve in question to the Primary Examiner for decision and it is respectfully requested that the Commissioner transmit such question for thorough consideration and careful determination by the Primary Examiner.

Respectfully submitted,

TOWNSEND & DECKER,

C. F. TISCHNER, JR.,

Attorneys for Rietzel.

Dated New York, N. Y.

November 22, 1910.

November 23, 1910.

Recorded vol 99.

Page 346.

Intf. No. 31,792, Paper No. 23.

SET

IN THE UNITED STATES PATENT OFFICE.

RIETZEL

vs.

HARMATTA.

PATENT INTERFERENCE No. 31,792.

APPEAL ON MOTION.

ELECTRIC WELDING.

Patent granted Adolph Rietzel July 20, 1909, No. 928,701, on Application filed February 24, 1905.

Application of Johann Harmatta filed December 3, 1903, No. 183,677.

Messrs. Townsend & Decker for Rietzel.

Messrs. O. E. Duffy & Son for Harmatta.

This is an appeal by Rietzel from that portion of the decision of the examiner of interferences refusing to transmit to the pri-

mary examiner the third ground of his motion to dissolve the interference.

This ground reads as follows:

"Third, that the party Harmatta has no right to make the claims forming the subject of counts 4, 5, 6, 7 and 8 of the issue of this interference for the reason that he has not filed the oath required by Rule 48 and the Patent Statutes."

Transmission of this part of the motion to dissolve was denied by the examiner of interferences upon the ground that the sufficiency of the oath is an *ex parte* matter which may be readily adjusted after the interference shall have been determined.

The record shows that the application of Harmatta as filed disclosed a method, an apparatus, and an article, but contained only claims to the method and apparatus. The examiner suggested to him, under the provisions of Rule 96, both method and article claims from the patent to appellant, which had in the meantime inadvertently issued upon a subsequently filed application. The amendment of Harmatta inserting his claims was not accompanied by a supplemental oath.

It is well settled that the question of whether claims inserted by amendment should be supported by a supplemental oath is an *ex parte* matter not open for argument in the interference proceeding, and that in the absence of such an oath, even where it should have been furnished, there is no such irregularity as will preclude the proper determination of the interference. *Rennyson v. Merritt*, 58 O. G., 1415; *Kane v. Brill and Adams*, 84 O. G., 1142; *ex parte Richards*, 95 O. G., 1853; *Silverman v. Hendrickson*, 99 O. G., 445; *Auerbach v. Gubing v. Wiswell*, 108 O. G., 289; *Schubert v. Munro*, 113 O. G., 283; *Phillips v. Sensenich*, 134 O. G., 1806, 31 App. D. C., 159.

It is urged by appellant that he should not be put to the expense of contesting the interference where there is doubt as to whether his opponent "can make such a statement under oath." In answer to this contention it is noted that the issue in the interference includes both method and article claims, and the interference would continue as to the former claims, even if this ground of the motion to dissolve were granted, also that Harmatta has filed a preliminary statement in which he alleges that he is the inventor of the issue in the interference. In the latter respect this case is similar to that of *Silverman v. Hendrickson*, *supra*.

Appellant suggests that the interference should be suspended, at least, and Harmatta required to file a supplemental oath.

In the case of *Rowe v. Brinkmann*, 133 O. G., 515, where the original oath of Brinkmann was defective, a motion of Rowe to dissolve the interference based upon this ground was refused transmission but it was directed by the Commissioner upon appeal that the interference be suspended and a proper oath required

for the reason that "Brinkmann had filed no preliminary statement." In the present case, as stated above, Harmatta has filed a proper preliminary statement.

The decision of the examiner of interferences is affirmed.

E. B. MOORE,
Commissioner.

December 3, 1910.

Intf. No. 31,792. Paper No. 24.

Washington, December 3, 1910.

In the matter of the Interference of

RIETZEL

v/s.

HARMATTA.

INTERFERENCE NO. 31,792.

APPEAL ON MOTION.

SIR:

You are hereby informed that the decision of the Examiner of Interferences has been affirmed by the Commissioner. Please find enclosed herewith a copy of the decision.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F

Adolph F. Rietzel,
c/o Townsend & Decker,
149 Broadway,
New York City.

Johann Harmatta,
c/o O. E. Duffy & Son,
612 F St. N.W.,
Washington, D. C.

R.A.J.—2—253.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

Dec. 14, 1910.

BEFORE THE PRIMARY EXAMINER, DIVISION 3.

IN RE INTERFERENCE 31,792.

RIETZEL

vs.

HARMATTA.

U. S. Patent Office.

Dec. 14, 1910.

Mailed.

A. F. Rietzel, c/o Townsend and Decker, 149 B'way, N. Y. City.
Johann Harmatta, O. E. Duffy, and Son., 612 F St., N.W., Wash-
ington, D. C.

Please find below a communication from the Examiner in
regard to the above-cited case.

Very respectfully,

6—1759

E. B. MOORE,
Commissioner of Patents.

A hearing on Rietzel's motion for dissolution will be given by
the Primary Examiner, Thursday, Jan. 5, 1911, at 10 A.M. in
Room 173.

WM. J. RICH,
Examiner, Division C.

Docket clerk.

Dec. 23, 1910.

U. S. Patent Office.

Intf. No. 31,792, Paper No. 26.

IN THE UNITED STATES PATENT OFFICE.

INTERFERENCE No. 31,792.

ADOLPH F. RIETZEL.

vs.

JOHANN HARMATTA.

ON APPEAL TO THE COMMISSIONER OF PATENTS.

NOW COMES ADOLPH F. RIETZEL by his attorneys and
moves for a rehearing of his appeal decided by the Commissioner
of Patents December 3rd, 1910, upon the following grounds:

I.

The Commissioner arrived at his conclusion through overlooking the controlling effect of the fact that in making his original application for patent Harmatta swore only that he believed himself to be the original, first and sole inventor of a process of and apparatus for manufacturing metal articles, and did not swear that he believed himself to be the first and sole inventor of the metal article itself, and has never filed any oath or made any affidavit that could be lawfully taken as a substitute for a formal oath, that he believes himself to be the first and original inventor of the article forming the subject of the fourth, fifth, sixth, seventh and eighth issues of the interference.

II.

The decision of the Commissioner was in direct conflict with Section 4892 of the revised Statutes requiring that an applicant making application for a patent upon a manufacture or improvement thereof shall make oath that he believes himself to be the first inventor thereof and does not know and does not believe that the same was ever before known or used, and the applicant Harmatta has never filed any oath to that effect in this case or any lawful substitute therefor.

III.

The decision of the Commissioner was reached through misapprehension as to the controlling effect of the previous decision in *Silberman vs. Hendrickson*, 99 O. G., 445, and of the fact that Harmatta has filed a preliminary statement. It was not thereby decided that a preliminary statement can supply the place of the oath required by Section 4892 of the Statutes as to all the statutory allegations, but only that a preliminary statement in which the inventor makes oath that he is the inventor of the matter in issue may stand in place of the application oath as to that fact.

IV.

The Commissioner arrived at his conclusion through misapprehension as to the controlling effect of said preliminary statement through overlooking the fact that said preliminary statement does not allege that the inventor believes himself to be the first inventor or discoverer of the manufacture or improvement of manufacture claimed in the fourth, fifth, sixth, seventh and eighth counts of the issue.

V.

The Commissioner arrived at an erroneous conclusion through failure to distinguish between the previously adjudicated cases, decided upon the case of a broadened or enlarged claim upon the

same statutory subject matter of invention sworn to by the original oath, and the case of a new claim upon different statutory subject matter to which no oath of any kind has been made.

VI.

The decision was in principle in direct conflict with Section 4904 of the Statutes, prescribing in what cases the Commissioner shall direct the Primary Examiner to proceed to determine the question of priority of invention and for the reason that Harmatta has not filed any complete application for patent for the article forming the subject of the counts 4, 5, 6, 7 and 8, conformably with Section 4892 of the Statutes and Section 46 of the Rules of Practice, specifying the facts to which the applicant shall make oath, and has not filed any complete application conforming to Section 30 of the Rules of Practice and to the Statutes.

VII.

The decision overlooked the controlling effect of the fact that the oath required to be filed by Harmatta in order to complete his application for a patent on the article forming the subject of counts 4, 5, 6, 7 and 8 of the issue is in law an original oath and that in the absence of such oath the declaration or continuance of an interference by the Commissioner is ultra vires and in conflict with Section 4904 of the Statutes, prescribing the cases in which the Commissioner shall proceed to determine the question of priority of invention.

VIII.

The decision overlooked the controlling effect of the fact that no oath has been at any time filed by Harmatta that he believes himself to be the first inventor of the article of manufacture forming the subject of the counts 4, 5, 6, 7 and 8, but that on the contrary he has in his original specification inferentially disclaimed being the first inventor of the article, for producing which he invented the apparatus and method for which he duly made application for patent.

IX.

In arriving at his conclusion the Commissioner overlooked the fact that the authorities cited by him in his decision do not warrant the declaration of an interference or the continuance of the same in cases where there is an entire absence of oath.

X.

The Commissioner arrived at his conclusion through misapprehension of the controlling effect of the decision in the case of Renyon vs. Merritt, which was a case in which the applicant simply broadened his claims, confining them still to the statutory subject matter covered by his original oath.

XI.

The Commissioner arrived at his conclusion through misapprehension as to the controlling effect of the previous decision in the case of Kane vs. Brill & Adams, which dealt only with the case of a supplemental oath where the inventor had been required by the Examiner to amend his specification to make his device operative.

XII.

The Commissioner arrived at his conclusion through misapprehension of the controlling effect of the decision in the case of Ex parte Richards, which decided only that the requirement of a supplemental oath where claims were broadened would be postponed until after the interference, in view of hostility of the inventor to the assignee at the time.

XIII.

The decision was reached through misapprehension as to the controlling effect of the case of Auerbach vs. Gubing vs. Wiswell, 108 O. G. 289, for the reason that said decision was made upon the authority of Rennyson vs. Merritt and Kane vs. Brill & Adams, and like them, dealt with the case of an enlarged but not a different claim.

XIV.

The Commissioner reached his conclusion through misapprehension of the controlling effect of the decision in the case of Shubert vs. Monroe, 113 O. G. 283, which was not rendered upon any state of facts differing from the previous cases of Rennyson vs. Merritt and others cited with approval, and which was rendered upon a state of facts entirely different from those present in this case. The facts in Shubert vs. Monroe, so far as said decision shows on its face, differed only from the previous cases in that there was an absence of a notarial seal upon the supplemental oath. This case, like the others, was an appeal from the Primary Examiner after decision upon the question referred to him by the motion made in view of the absence of a supplemental oath. It was not therein decided that the question raised should not be referred to the Primary Examiner for his consideration.

XV.

The conclusion of the Commissioner was reached through misapprehension as to the controlling effect of the case of Phillips vs. Sensenich, in which the court simply refuses to undertake to review the exercise of discretion by the Commissioner in regulating the practice of the Patent Office as to supplemental oaths. It appears further from the decision that the amendment in question was "within the scope of the original application" and involved merely

EEG.

Letter No.
Intf. No. 31,792.—Paper No. 28.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON,

December 29, 1910.

In the matter of the Interference of

RIETZEL

vs.

HARMATTA.

INTERFERENCE NO. 31,792.

REQUEST FOR REHEARING.

You are hereby informed that the decision of the Commissioner on the above request is as follows:

"This is a request by Rietzel for a rehearing of his appeal from that portion of the decision of the examiner of interferences refusing to transmit the third ground of his motion to dissolve the interference.

"It is well settled that the question of whether a supplemental oath should be required is an *ex parte* matter upon which the proper determination of priority is not dependent. In the preliminary statement of Harmatta, he alleged 'that he conceived the invention set forth in the declaration of interferences at the end of the year 1900.' This preliminary statement is believed to be sufficient for the continuation of the interference and the question of whether a supplemental oath should be filed will be determined by the primary examiner after the interference is concluded.

"The petition for rehearing is denied."

E. B. MOORE,
Commissioner.

December 29, 1910.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F

Adolph F. Rietzel,
c/o Townsend & Decker,
149 Broadway,
New York City.

Johann Harmatta,
c/o O. E. Duffy & Son,
612 F St. N. W.,
Washington, D. C.

U. S. Patent Office,
Dec. 30, 1910.
Div. 3.

Serial No.
Paper No. 29.

Honorable Commissioner of Patents:

Please permit Messrs. Meyers, Cushman & Rea of Washington, D. C., to inspect the Interference file in the matter of Interference #31,792, Rietzel vs. Harmatta, and also permit Messrs. Meyers, Cushman & Rea to make copies of any papers contained therein,

Very respectfully,

O. E. DUFFY & SON.

U. S. Patent Office,
Dec. 31, 1910.
Div. 3.

No. 30.

UNITED STATES PATENT OFFICE.

In re Interference:

ADOLPH RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

STIPULATION.

It is hereby stipulated and agreed by and between counsel for the respective parties, the Commissioner of Patents consenting, that the hearing of the motion to dissolve brought by Rietzel and now set for hearing on the 5th day of January, 1911, may be postponed to Thursday, February 2nd, 1911.

TOWNSEND & DECKER,
Attorneys for Rietzel
O. E. DUFFY & SON,
Attorneys for Harmatta.

New York, N. Y., December 27, 1910.

1876

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Defendant's Exhibit No. 35.

2—253

Paper No. 31.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

Jan. 9, 1911.

Mailed " " "

BEFORE THE PRIMARY EXAMINER—DIVISION 3.

In re Interference:

RIETZEL

vs.

HARMATTA.

A. F. Rietzel, c/o Townsend and Decker 149 B'Way New York City.

J. Harmatta, c/o O. E. Duffy and Son., 612 F St., N. W., City.

Please find below a communication from the Examiner in regard to the above-cited case.

Very respectfully,

6—1759

E. B. MOORE,
Commissioner of Patents.

The stipulation to postpone the hearing of the motion to dissolve, filed the 31st ult., is approved and the hearing is postponed until Thursday, Feb. 2, 1911, at 10.30 A. M.

WM. J. RICH,
Examiner Division 3.

Docket Clerk,

Jan. 7, 1911.

U. S. Patent Office.

31,792—32.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

Messrs. Townsend & Decker,

No. 149 Broadway,

New York City, N. Y.

GENTLEMEN:

Please take notice that on Thursday, January 12, 1911, at 10 o'clock A. M., or as soon thereafter as counsel can be heard before

the Examiner of Interferences we shall move to have incorporated as issues in the above entitled interference claims 2, 3 and 4 of the patent to Adolph F. Rietzel, #928,701, dated July 20, 1909, as per the attached amendment.

In support of this motion we shall refer to the annexed affidavit of C. Hugh Duffy.

O. E. DUFFY & SON.

Washington, D. C., January 7th, 1911.

AFFIDAVIT OF SERVICE.

City of Washington, District of Columbia, ss:

C. Hugh Duffy being duly sworn deposes and says that he is of counsel for Johann Harmatta; that on Saturday January 7th 1911 he deposited with the Post Office authorities at Washington, D. C., and caused to be sent prepaid by registered mail a sealed envelope addressed to Messrs. Townsend & Decker, #149 Broadway, New York City, as per attached registered slip, which envelope contained a copy of the accompanying motion papers.

C. HUGH DUFFY.

Subscribed and sworn to before me this 7th day of January 1911.

F. A. MILLIGAN,

(Seal)

Notary Public.

P. O., Washington, D. C.

Jan. 7, 1911.

Letter No. 191787

Received for registration 3050, 19, from Station G, O. E. Duffy & Son, addressed to Messrs Townsend & Decker, N. Y., N. Y.
1 class postage prepaid. Postmaster, per B

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

To the Honorable Commissioner of Patents.

SIR:

Now comes Johann Harmatta by his attorneys and moves that claims 2, 3 and 4 of the patent to Adolph F. Rietzel, #928,701, dated July 20, 1909 be incorporated as counts 9, 10 and 11 in the above entitled interference, said claims being presented herewith as

1878

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Defendant's Exhibit No. 35.

an amendment to the application of Johann Harmatta, Serial No. 183,677, filed December 3rd 1903.

In support of this motion reference is made to the annexed affidavit of C. Hugh Duffy of counsel for Johann Harmatta.

O. E. DUFFY & SON,
Attorneys for Johann Harmatta.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

ADOLPH F. RIETZEL.

vs.

JOHANN HARMATTA.

No. 31,792.

AFFIDAVIT.

C. Hugh Duffy being duly sworn deposes and says that he is of counsel for Johann Harmatta in the above entitled interference; that claims 2, 3 and 4 of the patent to Adolph F. Rietzel, #928,701, dated July 20, 1909 are clearly readable on the disclosure of the application of Johann Harmatta, party to the above entitled interference; that attorneys of record for Johann Harmatta did not receive instructions from their client Mr. Harmatta in order to bring this motion within the time specified by Rule 109; that inasmuch as the matter has been transmitted to the primary Examiner on motion brought by Rietzel and a hearing will be had before the primary Examiner on a motion to dissolve brought by Adolph F. Rietzel it is believed that Adolph F. Rietzel will in no way be inconvenienced or put to further expense or otherwise damaged by the incorporation of the claims 2, 3 and 4 of the said Rietzel patent as issues in this interference; that a determination of the issues now in interference would leave the entire controversy unsettled and unsatisfactory to either parties and a proper determination of the rights of the contesting parties cannot be had until the issues include the said claims 2, 3 and 4 of the said Rietzel patent; that attorneys were unable by reason of their lack of instructions to bring this motion at an earlier date; that to the best of affiant's knowledge this is the first motion that has been brought by Harmatta in his proceeding and that the motion is made in good faith and not for the purposes of delay.

C. HUGH DUFFY.

Sworn to and subscribed before me this 7th day of January 1911.

(Seal)

F. A. MILLIGAN,
Notary Public.

Defendant's Exhibit No. 35.

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R.A.J.

Letter No. 33.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

Jan. 13, 1911.

RIETZEL

vs.

HARMATTA.

No. 31,792.

Examiner of Interferences.

SIR:

I hereby request jurisdiction of the above entitled interference for the purpose of considering the patentability of certain of the counts of the issue in connection with newly discovered references.

Very respectfully,

WM. J. RICH,
Examiner, Division 3.

2—224.—M.C.V.

Paper No. 34.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

Jan. 14, 1911.
Mailed " " "

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

E. B. MOORE,
Commissioner of Patents.

On January 7, 1911, Harmatta filed a motion to amend the issue of this interference by adding certain claims. The motion is not accompanied by a motion to transmit to the Primary Examiner but its transmission will be considered in order to save the moving party the inconvenience of bringing another motion therefor.

It appears that the Primary Examiner has jurisdiction of this case for the purpose of deciding a motion for dissolution upon which no hearing has as yet been had. It is considered, therefore, that the present motion, although late, should be transmitted to the Primary Examiner since it can be considered with the questions which he is already called upon to determine and no substantial extra delay will result in the prosecution of this interference.

Harmatta's motion to amend is transmitted to the Primary Examiner.

Proceeding stand suspended.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk,

Jan. 14, 1911.

U. S. Patent Office.

31,792—35

WASHINGTON, D. C.,

January 14, 1911.

Hon. Commissioner of Patents,
Washington, D. C.

SIR:

In the matter of the Interference Rietzel vs. Harmatta, No. 31,792; in which Rietzel is a patentee and Harmatta an applicant.

In inspecting the file of this case we have seen a letter from the Primary Examiner requesting jurisdiction of the case to consider the counts of the interference in view of alleged newly discovered references.

We desire to call attention to the fact that the Rietzel Patent in this interference is now involved in infringement suits and that the question of patentability has been raised therein and will be considered more exhaustively, completely and finally that could be done by the tribunals of the Patent Office. For this reason we request that the Primary Examiner be directed not to consider such question of patentability at the present time, it being understood that should Harmatta prevail it could be urged at any time before the issuance of the patent while if Rietzel should succeed, the consideration of patentability would be a moot question, since he already has a patent.

Attention is also called to the fact that Harmatta could not raise the question of patentability since his opponent has a patent and if he raised it, the interference would, under the practice, be dissolved.

Very respectfully,

TOWNSEND & DECKER.

In view of the facts above stated it seems to me that the above request could well be granted without impairing the rights of either party, as far as the interference is concerned.

Very respectfully,

WM. J. RICH,
Examiner Division 3.

Jan. 14, 1910.

Approved,

Jan. 14, 1911.

C. C. BILLINGS,

First Assistant Commissioner.

2-253.—R.A.J.

Paper No. 36.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

Jan. 18, 1911.
Mailed " " "

BEFORE THE PRIMARY EXAMINER, DIVISION 3.

IN RE INTERFERENCE NO. 31,792.

RIETZEL

vs.

HARMATTA.

A. F. Rietzel C/o Townsend and Decker, 149 B'Way, N. Y. City.
J. Harmatta, C/o O. E. Duffy and Son, No. 612 F St., N. W.,
City.

Please find below a communication from the EXAMINER in regard to the above-cited case.

Very respectfully,

E. B. MOORE,
Commissioner of Patents.

6-1759

Harmatta's motion to amend his application by inserting certain claims under Rule 109 will be heard in Room 173 on Thursday, Feb. 2, 1911, at 10.30 A. M., at the time of the hearing on Rietzel's motion to dissolve.

WM. J. RICH,
Examiner, Division 3.

Intf. No. 31,792. Paper No. 17.

Docket Clerk,
Jan. 18, 1911.
U. S. Patent Office.

UNITED STATES PATENT OFFICE,

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

APPEAL TO THE COMMISSIONER OF PATENTS.

The party Rietzel to the above interference hereby appeals to the Commissioner of Patents in person from the decision of the Examiner of Interferences rendered January 14, 1911, transmitting to the Primary Examiner the motion filed by Harmatta to amend the issue of the interference by adding certain claims.

The following are assigned as the reasons of appeal:

It was error to transmit to the Primary Examiner Harmatta's motion to amend for the following reasons:

(a) That the motion was not brought within the time allowed by the Rule for bringing such motions.

(b) That the motion was brought outside of the time allowed by the Rule and no sufficient showing was made why the motion could not have been brought earlier.

(c) That the transmission of the motion was opposed by the party Reitzel, which fact does not appear from the said decision of the Examiner of Interferences.

It was error to hold that the motion should be transmitted because a motion to dissolve in this same case is awaiting hearing, for the reason that this is not a sufficient or recognized excuse for bringing a motion after the time allowed by the Rule.

It was error to hold that because the Primary Examiner has jurisdiction of the case for the purpose of deciding another motion that he should be given jurisdiction to decide this motion, which is brought far outside of the time allowed by the Rule.

TOWNSEND & DECKER,
Attorneys for Rietzel.

New York, January 17, 1911.

2—201.—O

Intf. No. 31,792—Paper No. 18.

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

WASHINGTON,

January 18, 1911.

Sir:

In case of

REITZEL

vs.

HARMATTA,

INTERFERENCE No. 31,792.

APPEAL BY REITZEL ON MOTION,

will be heard by the Commissioner on the 24th day of January, 1911.

The hearings will commence at ten o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes.

Motions, thirty minutes, each side.

Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

E. B. MOORE,
Commissioner of Patents.

6—1961

To All parties.

Intf. No. 31,792. Paper No. 19

THE WESTERN UNION TELEGRAPH COMPANY.

Mail Room,
Jan. 23, 1911.

U. S. Patent Office.

1598

1036

Received at 4C Cr 38 NL

Jacksonville, Fla., 22.

Honorable Commissioner of Patents,
Washn D. C.

Just received notice here of appeal to Commissioner to be heard twenty fourth inst Rietzel versus Harmatto Welding process Impossible to attend and request extension fifteen days Have wired opposing counsel requesting them to agree to this extension.

Docket Clerk,
Jan. 24, 1911.

U. S. Patent Office.

O. E. DUFFY & SON.
Intf. No. 31,792. Paper No. 20, 40

UNITED STATES PATENT OFFICE,

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

BEFORE THE HONORABLE COMMISSIONER OF PATENTS ON APPEAL
FROM THE EXAMINER OF INTERFERENCES' DECISION
TRANSMITTING HARMATTA'S MOTION TO AMEND.

BRIEF FOR ADOLPH F. RIETZEL.

THIS CASE comes up on appeal by the party RIETZEL to the above entitled Interference from a decision of the Examiner of Interferences rendered January 14th, 1911, transmitting the motion to amend the issue of the Interference brought by Harmatta.

The Interference is between Adolph F. Rietzel, a patentee, and Johann Harmatta, who has filed an application in which certain claims of the Rietzel patent are incorporated.

On January 7th, 1911, over six months after the preliminary statements in the above Interference were approved, the party HARMATTA filed a motion to amend the issue of this Interfer-

ence by adding certain additional claims which he copies from the patent issued to Rietzel. This motion is not accompanied by any excuse or showing to explain the delay in bringing the motion other than that the attorneys for Harmatta "did not receive instructions from their client, Mr. Harmatta, in order to bring this motion within the time specified by Rule 109". They do not state when they did receive their instructions, why they themselves could not have brought the motion, why they could not have brought the motion at an earlier date, nor in fact any reason whatever to in any way explain their lack of diligence in presenting the motion.

The party HARMATTA has had constructive notice of the Rietzel patent for about a year and a half and he deliberately copied certain claims of this Rietzel patent for the purpose of Interference. The Rietzel patent was issued some nine months before the declaration of interference and the party HARMATTA assuredly knew of all the claims in the Rietzel patent when he deliberately copied but some of them and he now attempts, after a lapse of over six months from the time of approval of the preliminary statements, to come in and add certain other claims of the existence of which he was aware at the time of making the original claims. Further, he makes this motion far outside of the time allowed by the Rule and without attempting to make any showing whatever to excuse the delay.

Rule 109 requires that a motion to amend shall be presented within thirty days after the preliminary statements of the parties have been approved and as regards this time requirement would seem to be more mandatory than the Rule 122, which states that motions for dissolution should, *if possible*, be made not later than the thirtieth day after the statements of the parties have been approved. The purpose of Rule 109 is to permit a party to an interference to add additional claims from an opponent's case after he has had an opportunity to inspect his opponent's case, and as was held in Sutton, Steele & Steele, 121 O. G. 1012, if he fails to take advantage of that Rule he loses the right to contest the question of priority as to the additional claims made by his opponent.

Harmatta had ample time before the thirty day period allowed by the Rule expired, to include all counts in the Interference which he thought he could make, and in fact all such counts should have been included when he originally copied some of the claims of the Rietzel patent, as at that time he had access to the patent and knew of all the claims made therein. As he made his election, having full knowledge of all the claims in the patent, he has now waived his right to contest any additional claims and his present motion brought far outside of the time allowed by the Rule, should not be transmitted, as was held in the case of Scott vs. Emmet vs. Hewett, 116 O. G. 1184.

This matter, it is contended, comes well within a decision rendered by the present Commissioner of Patents, Mr. Moore, in Matice vs. Langworthy, 132 O. G. 678, in which it was held:

"A motion to amend under Rule 109 brought after the thirty days allowed by the Rule and accompanied by no excuse for the delay is entitled to no consideration and should not be transmitted."

Also in *Potter vs. Van Vleck vs. Thomson*, 95 O. G. 2484, it was held:

"In order to warrant transmitting a motion filed after the twenty days allowed by the Rule, it must be satisfactorily explained why it was not possible to bring it within the time. The fact that the reasons for it did not occur to the party bringing it when the information was within his reach is not a sufficient excuse."

Harmatta could have brought the present motion within the time allowed by the Rules just as well as he can bring it now, over five months after the time has expired, and in fact if he had any contention that he could make the claims set forth in the present motion, he should have made them when copying his original claims from the Rietzel patent, as the Rietzel patent was under his notice at that time and he had full knowledge of all the claims of the patent.

This case, that is where a party deliberately copies claims of a patent to provoke an interference, is entirely different from one in which two applicants are involved in which latter case neither one knows of the claims involved in the application of the other until after the preliminary statements are approved and each can obtain copies of his opponent's application.

It is now nearly twelve months since the time that the Rietzel patent was specifically brought to Harmatta's attention and he had ample time between the time of calling the patent to his attention and the time he copied his first claims to decide just what claims he could contest in the Interference and in view of this long time within which the information was at his hand his present motion to add additional claims not originally copied from the Rietzel patent should not be transmitted in view of the lateness with which the motion is brought and the absence and impossibility of any valid excuse for the delay.

It is contended that the Examiner of Interferences has gravely abused his discretion in transmitting the motion in view of the facts and without any excuse being given for the delay. The Examiner of Interferences evidently takes the view that because there is a motion to dissolve pending, that this is sufficient to excuse the delay in presenting the present motion to amend. This has been repeatedly held to be an insufficient excuse as is evidenced by numerous decisions on this point, among which may be noted the following:

Perrussel vs. Wichmann, 99 O. G. 2970, in which it was held:

"The fact that a motion to dissolved under Rule 122 is pending does not prevent the filing of a motion to amend under Rule 109 or excuse delay in filing such a motion."

Hall vs. Latta, 59 O. G. 1431, in which it was held:

"The pendency of other motions in an Interference is no excuse for delaying a motion to dissolve the Interference beyond the twenty days limited by the Rule."

It has been repeatedly held that the Examiner of Interferences should only consider whether the motion is brought within the time allowed by the Rule and is in proper form and it cannot be see how the Examiner can abrogate such holdings and the strict requirements of the Rule where there has been absolutely no showing made to warrant dispensing with the strict requirements of the Rule.

The practice as regards Transmission under Rule 109 closely follows that under Rule 122 except it is contended that the time limit in Rule 122 is more lenient than that specified in Rule 109 and therefore the showing to excuse delay under Rule 109 should be more thorough and convincing than that necessary under Rule 122. If the Examiner of Interferences' decision in this case transmitting Harmatta's motion to amend, brought late and unexcused, merely because the motion to dissolve is pending, is tenable, then it amounts to establishing, as a Rule of Practice, that

A party in an interference proceeding, provided there is a motion to dissolve pending, can bring any other motions allowed by the Rules at any time outside of the time limit required by the Rules, provided the motion is brought before the hearing on the motion to dissolve, and in such cases he will not be required to excuse his delay in presenting the second motion.

A fact which does not appear from the Examiner of Interferences' decision is that the transmission of Harmatta's motion to amend was vigorously opposed by Rietzel at the hearing before the Examiner of Interferences on the ground that the motion was brought along after the time allowed by the Rule and no sufficient showing was made to excuse the delay, and for this reason alone, as was held in Townsend vs. Copeland vs. Robinson, 124 O. G. 1845, the transmission should be refused.

In the matter of excusable and inexcusable delay in bringing motions such as the present one, the burden is entirely upon the party who brings the motion to show that he went diligently to work on his case at the proper time to discover whether a motion should be brought and when he does not or cannot make a proper excuse, it is thought that the Examiner of Interferences gravely abuses his discretion when he overlooks the lack of an excuse and transmits the motion. What constitutes excusable and inexcusable delay is further clearly set forth in McKee vs. Baker, 120 O. G. 657, in which it was held:

"Where it is not shown that a party went diligently to work upon his case at the proper time to discover whether a motion for dissolution should be brought nor that he was prevented from making the necessary investigation and bringing the motion within the period fixed by the rules, HELD that the motion should not be transmitted."

"The rule requiring motions to be brought within a fixed time is a wholesome one, and its enforcement requires that motions be not accepted when brought after the expiration of that time except where circumstances are shown which made it impossible to bring the motion within the regular period or under which the party could not reasonably be expected to have brought it therein."

In view of the peculiar and exacting facts presented in this matter, it is respectfully submitted that there has been a clear abuse of discretion on the part of the Examiner of Interferences in transmitting Harmatta's motion to amend and it is respectfully requested that such decision of the Examiner of Interferences be reversed.

TOWNSEND & DECKER,

Attorneys for Rietzel.

New York, Jan. 19th, 1911.

Recorded Vol. 100, page 131. Intf. No. 31,792. Paper No. 21, 41.
January 24, 1911. S.M.B.

IN THE UNITED STATES PATENT OFFICE.

PATENT INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

APPEAL ON MOTION.

ELECTRIC WELDING.

Application of Adolph F. Rietzel filed February 24, 1905, No. 427,081.

Application of Johann Harmatta filed December 3, 1903, No. 183,677.

Messrs. Townsend & Decker for Rietzel.
O. E. Duffy & Son for Harmatta.

This is an appeal from the decision of the examiner of interferences transmitting a motion by Harmatta to amend the issue by adding three claims contained in an amendment accompanying the motion.

The party Rietzel is a patentee and Harmatta an applicant. The

three claims which Harmatta seeks to have added to the issue are copied from the Rietzel patent. Transmission of the motion is opposed on the ground that no excuse has been shown by Harmatta for the delay in bringing this motion. As pointed out by the examiner of interferences, however, the primary examiner now has jurisdiction of the case for the purpose of considering a motion for dissolution and the additional delay incident to a determination of the present motion would be insignificant under the circumstances.

Furthermore, Harmatta should be given every reasonable opportunity for securing in this interference an adjudication on all claims which may be properly made in his application, since Rietzel is a patentee and there will therefore be no opportunity after the termination of the interference for the office to reject any claims in the Rietzel patent which may be unpatentable over the present issue, should Harmatta prevail in this proceeding.

It does not appear that the transmission of the present motion will prejudice any rights of the opposing party.

The decision of the examiner of interferences is affirmed.

E. B. MOORE,
Commissioner.

January 25, 1911.

EEG.

Intf. No. 31,792. Paper No. 22.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON,

January 26, 1911.

In the matter of the Interference of

RIETZEL

vs.

HARMATTA.

INTF. NO. 31,792.

APPEAL ON MOTION.

Sir:

Your are hereby informed that the decision of the Examiner of Interferences has been affirmed by the Commissioner. Please find enclosed herewith a copy of the decision.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F

Adolph F. Rietzel,
c/o Townsend & Decker,
149 Broadway,
New York City.

Johann Harmatta,
c/o O. E. Duffy & Son,
612 F St., N. W.,
Washington, D. C.

Docket Clerk.
Jan. 27, 1911.
U. S. Patent Office.

31,792—23.

Mail Room.
Jan. 27, 1911.
U. S. Patent Office.

POWER OF ATTORNEY.

In the matter of the Interference Adolph F. Rietzel vs. Johann Harmatta, No. 31792, in which some of the claims of my United States patent No. 928,701, dated July 20, 1909, are involved, I hereby appoint Henry C. Townsend and Charles F. Tischner, Jr., constituting the firm of Townsend & Decker, of 149 Broadway, New York, New York, my attorneys, with full power to prosecute said Interference, to take all and any actions therein and to transact all business in the Patent Office connected therewith, hereby ratifying and confirming all and any actions heretofore taken by either or both of said parties.

ADOLPH F. RIETZEL.

The undersigned, Thomson Electric Welding Company, assignees of Adolph F. Rietzel, hereby ratify and confirm the above action and power.

(Seal)

THOMSON ELECTRIC WELDING CO.
By W. D. DODGE, *Secretary.*

CHART

TOO

LARGE

FOR

FILMING

U. S. Patent Office.
Feb. 2, 1911.
Div. 3.

44.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE PRIMARY EXAMINER.

In re Interference:

ADOLPH F. RIETZEL.

vs.

JOHANN HARMATTA.

No. 31,792.

BRIEF FOR RIETZEL ON MOTION TO DISSOLVE.

This is a motion by the party Rietzel to dissolve the above interference for the reason that the party Harmatta has no right to make the claims constituting the subject-matter of the interference.

On page 1 of Harmatta's substitute specification, filed May 14, 1904, beginning with line 11, he describes what he says to be the ordinary systems of welding, in which he states that the objects to be welded are placed one on the other, the current passed from one to the other and after they have been brought to a welding heat they are finally pressed together to effect the desired union. On the following page, namely 2, he describes two figures, namely, Fig. 1 and 2, of a set of drawings filed with this substitute specification. The figures referred to are herewith reproduced by a tracing of the same, and marked for identification "A." Harmatta describes these figures on page 2 of his specification, above referred to as follows:

"Figure 1 is a sectional view illustrating the electric welding of two comparatively thick sheets on the ordinary system.

"Figure 2 is a like view showing what occurs when one of the sheets is thin."

On line 21 of the same page, he goes on to describe, more in detail, the apparatus shown in these figures in the following words:

"As Figure 1 shows the electrodes *a b*, lie opposite each other, the sheets 1, 2 to be welded by the ordinary process being located between them. The sheets lie loosely upon each other, that is to say, they are not artificially pressed together, and the consequence is that they are separated by a layer of air 3."

only at the moment of this supply, at the place at which the welding is to be done." He stated in his substitute specification, above referred to, that it was the ordinary process to supply pressure after the supply of current. The Examiner cited a number of references which meet the invention of applying the pressure at the place at which the welding is to be done at the moment of the current supply, among which references may be mentioned the Thomson patent, No. 444,928. Harmatta, then, due to the citation of these references, canceled any claims broad enough to cover the application of pressure only at the time of the current supply and eliminated such method from his invention on account of it also being old in the art.

As Harmatta practically states in the lines above referred to that there is no patentable difference between the application of the pressure before and during the period of supplying the current, and the application of pressure only at the moment of current supply, and in fact there is no patentable difference, Harmatta has no right to make any claim founded upon the use of current and pressure, when, by the Examiner showing it to be old in the art to apply the pressure at the point of welding only at the moment of supplying the electric current, Harmatta canceled and disclaimed this method as his invention, the other equivalent is thereby absolutely met and Harmatta had no right to make any claims founded on such application of pressure and current. As he describes this last specific method as his invention, still less has he any right to make claims broad enough to include the use of an old apparatus and an old process, which he states were old in the art and therefore not his invention.

The specification of Harmatta stood with the disclaimer for nearly six years and not until he filed the amendments on Jan. 27th and March 30th, 1910, did he attempt to correct the specification by removing the disclaimer and broadening his claims. It appears nowhere that the insertion of the disclaimer was through inadvertence, accident or mistake, nor does it appear that the long delay was through any misapprehension of the applicant's rights. It is well settled that the correction of a mistake or error, if it can be made at all, may be lost by delay and particularly where intervening rights would be thereby effected. This cardinal principle of the patent law has been expounded so fully and forcibly in connection with litigated reissue patents that it is so well settled that it is not now necessary to cite authorities.

It is manifest that the correction or amendment of the specification and claims made by Harmatta can only avail him and can only be lawful by relating back to the date of the supposed error in disclaiming as new with him the broad art of welding in spots; but the rule as above stated, here intervenes to bar the proposed change for the reason which the correction which Harmatta now seeks to make affects the intervening rights of Rietzel as conferred upon him by the issuance of his patent.

The proposed correction further operates adversely upon the rights of Rietzel and his assignees as exercised by them for a period of nearly one year after the issuance of the Rietzel patent. Even in the case of the correction of a mere clerical error it has been held that such correction cannot take effect and relate back to the date of the error, if intervening rights would be thereby affected. This is stated to be the law in the foot-note to Sec. 639 of Robinson on Patents, citing *Woodworth vs. Hall*, (1846), 1 W. & M. 389; 2 Robb. 517. This was held to be the rule in the case of a mere clerical error on the part of the Patent Office. The same principle and rule applies with much more force in the case of a correction intended to broaden the scope to affect intervening rights, as has been over and over stated by the courts in its decisions upon re-issue patents.

It is a matter of grave moment in determining whether the rights of Rietzel and his assignees are adversely affected at this late date to remember that the Harmatta British patent contains substantially the same disclaimer which he now seeks to wipe out of his United States application, and that the owners of the Rietzel invention have proceeded on their actual knowledge of that disclaimer ever since the Harmatta patent was cited in the course of the prosecution of the Rietzel application eventuating in his patent herein in interference.

We therefore contend that Harmatta is precluded from making the correction which he now seeks to make by reason of delay, by reason of intervening rights which would be adversely affected, by reason of not only the absence of a showing of inadvertence, accident or mistake in the matter which he now seeks to correct as an error, but on the contrary a presumption (conclusive, not rebuttable) of the absence of inadvertence or mistake and arising from an express and formal declaration made in such terms that it is not possible to assume that any error or mistake actually existed in the making of that declaration.

Moreover, even if a patent should issue to Harmatta, that patent would have to be construed in the light of the disclaimer found in his British Patent, and so construed would obviously be invalid for the claims which he now seeks to make.

It is for the Patent Office to determine, therefore, whether it will continue this interference with a view to determining whether a patent shall be issued to Harmatta under circumstances such that, if the patent should issue, said patent would have to be declared invalid under the express authority of the decision of the United States Supreme Court in the case of *Ashcroft vs. Boston & Lowell Railroad Co.* (1877), 97 U. S. 189. In that case it was expressly held that where the foreign patent of an inventor contains a disclaimer of certain features, the American patent for the same invention must be limited in the same way. This is laid down as a broad and cardinal principle of the Patent Law as is apparent from the text of the decision. The case went up on a number of assignments of error, the first of which was:

"That the court erred in giving weight to the disclaimer of the supposed inventor as set forth in his English patent."

The patentee in this country, it appeared, took his original patents limited practically by the same disclaimer as appeared in the British patent, that is to say, they were comparatively narrow claims. One of them, however, was reissued and on that reissued patent a suit was founded. It appeared, further, that both the original and the reissued patent were granted for the same invention as the English patent. When reissued the patent contained no disclaimer of the kind mentioned in the English patent, though it was conceded that both the original and the reissued patent were granted for the same invention as the English patent.

The same is true in the present case and that concession in this case could not properly be withheld, for Harmatta has set forth in his original oath and by his preliminary statement that the invention for which he now seeks patent is the same as that of his English patent.

In the case decided by the Supreme Court, and now referred to, the court says, speaking of the disclaimer of the English patent and which in its nature was no more explicit than that of Harmatta:

"Explicit as that disclaimer is, still it is assigned for error by the complainant that the Circuit Judge erred in giving weight to it; but the court here is of the opinion that there is no merit in that objection. *Instead of that, the court decides that the patent in suit, in order that it may be held valid, must be construed in view of the disclaimer contained in that patent, and be limited to the particular devices shown in the specification for effecting such recoil action of the steam.*"

We strenuously urge on the authority of this case that Harmatta is not entitled to make the claims of this interference.

TOWNSEND & DECKER,
Attorneys for Rietzel.

February 2, 1911.

RAJ

2—253

RAJ

No. 45.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

Washington, D. C., Jun. 5, 1911
Mailed " " "

BEFORE THE PRIMARY EXAMINER, DIVISION 3.

IN RE INTERFERENCE 31,792.

RIETZEL

vs.

HARMATTA.

A. F. Rietzel,
c/o Townsend & Decker,
149 Broadway, N. Y. City.

Johann Harmatta,
c/o O. E. Duffy & Son,
612 F St., N.W., Washington, D. C.

Please find below a communication from the Examiner in regard to the above-cited case.

Very respectfully,

E. B. MOORE,

Commissioner of Patents.

6—1759

This interference is before the Primary Examiner in view of a motion made by Rietzel to dissolve and a motion made by Harmatta to add new counts under Rule 109.

The grounds of the motion to dissolve are—

(1) That Harmatta has no right to make claims corresponding to the counts of the interference issues inasmuch as he disclaimed the subject-matter thereof in his substitute specification filed May 14, 1904.

(2) That Harmatta has no right to make the claims corresponding to the counts of the interference for the reason that there is no patentable difference between carrying out any process of welding by applying pressure before and during the period of supplying the electric current and by applying pressure only at the moment of the electric current supply and that Harmatta has disclaimed the latter by certain amendments made to his specification.

The two grounds of the motion, as may be seen, are based on alleged disclaimers by Harmatta made in the application file. It is here noted that it appears questionable whether the acts of Har-

matta, alluded to by Rietzel, even if the contention be correct, can properly be termed "disclaimers" but since such word has been used by Rietzel and since the meaning is clear, whatever term may be used, such term will be employed in this decision.

Of the parties to this interference Harmatta filed his application Dec. 3, 1903 and Rietzel Feb. 24, 1905, Rietzel's application was allowed June 24, 1909 and patented July 20, 1909, while Harmatta's case was pending. March 22, 1910, certain claims of Rietzel's patent were suggested to Harmatta for purpose of interference, under Rule 96. Harmatta making such claims, the interference was declared.

The subject-matter of the interference involves what is called "spot" welding, wherein the parts to be joined (thin sheets), are electrically welded at certain spots or places instead of over their entire surface. In Rietzel's process projections are formed on one or both of the juxtaposed surfaces or a metal washer may be placed between such surfaces; metal electrodes are placed over such projections, an electric current is passed through the electrodes and pressure is exerted upon the pieces simultaneously with the passage of the electric current, one of the electrodes being forced against the pieces.

Harmatta's process is substantially the same as Rietzel's with this variation: no projections are formed upon the opposing surfaces but such surfaces are pressed together by the electrode as the current passes, thus forming the weld.

Although Rietzel does not disclose any means wherein the welding is accomplished without the presence of projections the claims in interference are of sufficient breadth to cover both his process and that of Harmatta.

Since the motion only alleges matter connected with Harmatta's application, it is unnecessary to refer more specifically to Rietzel's process or apparatus.

Harmatta's original specification contained the following statement of invention (line 7, page 1 to line 17, page 2):

"My invention relates to a process of and apparatus for manufacturing metal articles of all kinds, in particular those of the thinnest sheet metal, by direct electric welding. The new process consists in one of the electrodes (or both of them) not only serving to feed the current, but also being employed for exercising a more or less strong pressure either before and during the period of supplying the electric current, or at the moment of this supply, at the place where the welding is to be done. The member which feeds the electricity is thus at the same time the tool, and in this manner the most favorable conditions of working possible are secured, since, as is well known, in really effective welding processes the place of welding brought to the proper temperature must be at once well hammered or pressed in order that the welding may be thorough.

"According to none of the present known electric welding processes are the articles to be welded firmly pressed together during the welding operation by one or both electrodes for the purpose of favoring welding. Hitherto either no pressure has been extended at all, or it has been exercised at a certain distance from this place of welding, or at all events not centrally direct upon the electrodes pressing on the place to be heated. In short, hitherto direct electric welding pressure has never been exercised by means of the electrodes located in the direction of the current directly above the surface or point being welded."

By amendment of May 14, 1904, the entire specification was canceled and a new specification presented which contains the following: (line 3, page 1 to line 6, page 5).

"As well known, it is impossible, by means of the ordinary methods of electric welding, to produce a really sound seam between very thin metal sheets, that is to say, a seam which is perfect at every part, without there being any fusing or burning away of the material being welded."

The reason of this I have ascertained to be as follows:

"On the ordinary systems of welding it is the practice at once to lead a current to the objects to be welded (such as iron bars, hoops, chain links, or the like), whereby, in consequence of the thinner or thicker layer of air, which is always present between the two objects, vigorous sparking occurs. There is, so to say, a line of sparks or an arc formed, which persists until the objects being welded have been brought to melting heat by the electric current, whereupon they are finally pressed together to effect the desired union.

"This well-known method, therefore, does not really differ from the ordinary method of welding at the fire, except that instead of the gases of combustion of the fuel, the electric current is employed to heat the bodies to be welded. Once the welding heat is reached, however, the final union of the bodies in either case is effected by mechanical pressure (pressing or hammering).

* * * * *

"Fig. 1 is a sectional view illustrating the electric welding of two comparatively thick sheets on the ordinary system.

"Fig. 2 is a like view showing what occurs when one of the sheets is thin.

* * * * *

"As Fig. 1 shows, the electrodes a b lie opposite each other, the sheets 1, 2 to be welded by the ordinary process being located between them. The sheets lie loosely upon each other, that is to say, they are not artificially pressed together, and the consequence is that they are separated by a layer of air 3.

"If now the electric circuit is completed through the two

electrodes and the sheets, and if the layer of air 3 is sufficiently thick, that is to say, the air resistance sufficiently great, there will be no sparks or arc formed between the two plates for the time being. If, however, the sheets are approached, as is unavoidable for the purpose of final union by pressing, hammering, etc., as already explained, a time must arrive when the air resistance between the two sheets to be welded is no longer sufficiently great to prevent equalization of the electricity at the two poles. Between the sheets, therefore, an arc or a line of sparks will be formed, and will continue until intimate contact has taken place between the two sheets. If, as shown in Fig. 1, the sheets are relatively thick, the arc which is formed will be of no consequence, since the slight fusing away at 4 caused by the arc, or the sparks, will not be sufficiently deep to penetrate the thick material. In fact there is even an advantage in the action of the sparks or arc in the case in question, since the cross section of the material is altered, whereby the two sheets are, as it were, scarfed at the place of welding, that is to say, the two cross sections are diminished at the seam to approximately the thickness of a single sheet, so that under certain conditions the two welded sheets have the same thickness at the joint as a single sheet.

"The case is altogether other when two thin sheets or articles are to be welded, or when a very thin object is to be welded to a thicker one, such as is shown, for instance, in Fig. 2. In this Figure it is assumed that the thick sheet 2 (which, as explained with reference to Fig. 1, is thick enough not to be penetrated completely by the arc at the point 4) is to be electrically welded to a very thin plate 5 by the ordinary process as above explained.

"On the approach of the objects 2, 5, at a certain moment, in consequence of the penetration of the layer of air 3, fusing away takes place at 4, owing to the arcs or sparks, and this fusing will extend to such depth that, although, as above explained, not injurious in the case of the sheet 2, it causes the thin sheet 5 to be completely perforated or burnt through. Thus the ordinary process of welding by means of an arc is quite impracticable with thin sheets.

"The essential feature of my invention is that in welding thin sheets the formation of such an arc, or sparking distance, which proves so disastrous, is wholly avoided, whereby a perfectly sound welded joint between such bodies, or between a very thin body and a thicker object, is attained.

"For the purpose of preventing the formation of the injurious arc, that is to say the sparking distance, I first submit the superposed metal objects to be welded 5, 6 (Figs. 4 and 5) to a certain pressure, the amount of which will depend upon the nature of the objects. This pressure I effect by means of the electrodes a b (Figs. 4 and 5) themselves, or with the aid of other suitable means."

The last quotation, except as to the last twelve lines, contains the matter alleged by Rietzel to constitute a disclaimer of the subject-matter of the interference issues, the contention being that the claims constituting the counts are of sufficient scope as to include the process of the disclaimer; that Harmatta has disclaimed the counts to that extent and consequently the claims in their entirety and hence he has no right to make such claims.

In considering this question it is necessary to ascertain exactly what, if anything, Harmatta did disclaim, for he cannot be presumed to have made a disclaimer unless the terms and the subject are so clear as to be practically indisputable.

The only disclosure in the alleged disclaimer, so far as it relates to the issues, that appears to be stated with certainty is, that electrodes contacting with the plates to be welded are used, and that the process to which Harmatta refers as "common" does not really differ from the ordinary method of welding at the fire. In such case he would apparently refer to ordinary welding wherein the parts are heated by an electric current to a welding temperature and then pressed or hammered together, this being analogous to the case where a workman heats two pieces together to a welding temperature and then welds them on an anvil. Hence, viewed from such a point, Harmatta cannot be said to have disclaimed the subject-matter of the interference counts, for should such be held, it would place such counts in the class of cases where in the invention is disclosed in many patents on ordinary fire welding and also in many prior patents on electric welding. If the claims are to be subjected to a scrutinizing interpretation to ascertain whether or not they are of such scope as to be anticipated by such patents the motion would be resolved into an allegation of non-patentability in view of the general state of the art; but as the motion alleged no such ground, such question of non-patentability cannot now be passed upon. Moreover, these counts, in their present terms, were allowed in the patent to Rietzel and it is to be assumed that the Examiner then in charge of the case duly considered the question of patentability and the fact of the allowance of the claims indicates either that he considered them clearly patentable or that the question of anticipation was not so clear in his mind as to warrant his rejection of them.

Furthermore to consider the counts specifically the following conditions are found.

Count 1 calls for electrically welding the plates at spots only by the application of pressure and heating current localized in such spots.

The disclaimer does not in any event disclose specifically the welding together of the pieces at *spots only* by the application of pressure and heating current *localized in such spots*.

Count 2, inter alia, calls for the simultaneous application of current and pressure.

This is not found in the disclaimer.

Count 3 falls in the same class as count 1.

Count 4 is specific to an article composed of metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of such plates being practically unaltered in their metallic condition and the spots on their meeting surfaces being separated from one another by distinct unwelded areas.

No such specific character of article is found in the disclaimer.

Counts 5, 6, 7 and 8, like count 4, contain mention of specific details not to be found in the disclaimer.

Careful consideration has been given to the decision *Ashcroft vs. Boston and Lowell Railroad* 97 U. S. 189, but it is not seen to have any bearing on the case in support of the motion. In this case the patentee, Naylor, obtained a British patent in which he stated that he made no claim to a certain construction, definitely specifying the same. He also obtained a patent in the United States, which patent was reissued, the reissue patent being that on which suit was brought. The Court held that the disclaimer in the British patent held good even in a suit on a patent in this country; and furthermore the Court considered that the disclaimer was made in view of another British patent, (to Beyer) wherein was found the disclaimed matter.

No such condition is found in the Harmatta application. The disclaimer is not sufficiently definite to be determined with certainty. Nor is any art disclosed which would indicate the subject-matter of the disclaimer.

In conclusion, it may be said that the decision of the Court of Appeals of the District of Columbia in *In re Orcutt* 141 O. G. 567, C.D., 1909, 334 appears to have an important bearing on this motion. In that case the conditions were very similar to those of the present interference. Orcutt's application was involved in an interference with a patent to McDonald and McDonald, granted during the pendency of Orcutt's application. After the patent was granted Orcutt copied claims therefrom and obtained an interference. Priority was awarded by the Examiner of Interferences to McDonald and McDonald. On appeal by Orcutt, the Examiners-in-Chief did not pass upon the question of priority but stated to the Commissioner under Rule 126 that they considered the claims unpatentable. The Primary Examiner, on reference, rejected the claims, which rejection was affirmed by the Commissioner. On appeal to the Court of Appeals, while the rejection was affirmed, the Court said:

"In view of the inadvertence of the Patent Office in granting a patent to McDonald and McDonald for the claims of the issue, which patent is now beyond the control of the Office, it would probably have been the more equitable practice to have assumed patentability in the interference proceeding for the purpose of determining the question of priority between the two parties thereto. However, it was within the scope of the

Commissioner's authority to dissolve the interference, if convinced that the issue was not patentable. Should we declare the rejected claims patentable, the result would be that an interference would again be declared and the question of priority determined. It will thus be seen that the decision of the Commissioner dissolving the interference did not preclude Orcutt, if there was merit in his claims, from ultimately contesting the question of priority with the patentees, McDonald and McDonald."

Here we have a condition very analogous in some points to that of the present case. An applicant was involved in an interference with a patent granted on a copending application. The question of patentability was raised (by the Examiners-in-Chief) after a decision of priority by the Examiner of Interferences; the anticipation was so clear as to cause a rejection of the claims by every tribunal; and yet, in their decision rejecting the claims, the Court stated that it would probably have been more equitable, under the circumstances, to have had a judgment of priority before the question of non-patentability was raised.

In the present case the question is not clear as to what is covered by the disclaimer, but even if less doubtful than it is, it would be contrary to the dictum of the decision quoted to dissolve the interference.

In regard to the motion made by Harmatta to add counts under the provisions of Rule 109, these counts being claims 2, 3 and 4 of Rietzel's patent, it is not seen why he is not as much entitled to make such claims as he was to make the claims now involved in the interference, they reading as well on his disclosure as the others.

The motion made by Rietzel to dissolve is denied.

The motion made by Harmatta to add additional claims under Rule 109 is granted.

No appeal lies from either part of this decision.

WM. J. RICH,
Examiner, Division 3.

1935

186

Defendant's Exhibit No. 35.

Docket Clerk.

June 9, 1911.

U. S. Patent Office.

Mail Room.

June 9, 1911.

U. S. Patent Office.

#46.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE PRIMARY EXAMINER.

No. 31,792.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

MOTION.

NOW COMES Adolph F. Rietzel by his attorneys and moves for a rehearing of his Motion to Dissolve the Interference decided by the Examiner June 5th 1911 upon the grounds:—

1. That a question decisive of the case and duly argued by counsel was overlooked, to wit:

The question whether the British patent of Harmatta describes as an old method of welding, a process within the broad terms of the issue of this interference.

2. There was obvious misapprehension in treating the description of the Harmatta United States specification in the part disclosing the alleged disclaimer as being a reference to ordinary fire welding since in view of the context and the object of the invention said description can only refer to a process of electric welding and to one wherein the electric current is applied at a time with reference to the application of pressure, such as to produce what the applicant describes as a line of sparks or an arc.

ADOLPH F. RIETZEL.

BY TOWNSEND & DECKER,

Attorneys.

June 8, 1911.

1906

Defendant's Exhibit No. 35.

187

RAJ

2-253.

#47.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

June 12, 1911.

Mailed " " "

BEFORE THE PRIMARY EXAMINER, DIVISION 3.

IN RE INTERFERENCE 31,792.

RIETZEL
vs.
HARMATTA.

A. F. Rietzel, C/o Townsend and Decker, 149 B'Way New York City.

Johann Harmatta, C/o O. E. Duffy and Son, 612 F St., N.W., Washington, D. C.

Please find below a communication from the EXAMINER in regard to the above-cited case.

Very respectfully,

6-1759.

E. B. MOORE,
Commissioner of Patents.

A motion is made by Rietzel for a rehearing of the motion to dissolve this interference, decided June 5, 1911, upon the following grounds.

"1 That a question decisive of the case and duly argued by counsel was overlooked, to wit:

The question whether the British patent of Harmatta describes as an old method of welding, a process within the broad terms of the issue of this interference.

2. There was obvious misapprehension in treating the description of the Harmatta United States specification in the part disclosing the alleged disclaimer as being a reference to ordinary fire welding since in view of the context and the object of the invention said description can only refer to a process of electric welding and to one wherein the electric current is applied at a time with reference to the application of pressure, such as to produce what the applicant describes as a line of sparks or an arc."

1909

190

Defendant's Exhibit No. 35.

the Examiner of Interferences, we shall move that the time for filing preliminary statement of Johann Harmatta be extended to September 15th 1911.

In support of said motion we shall refer to the annexed affidavit of C. Hugh Duffy.

O. E. DUFFY & SON,
Attys. for Harmatta.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 31,792.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

To the Honorable Com. of Patents.

Sir:—

Now comes Johann Harmatta by his attorneys and moves that the time for filing his preliminary statement as to counts 9, 10 and 11 be extended to September 15th 1911.

O. E. DUFFY & SON,
Attorneys.

Washington, D. C.,
August 3rd, 1911.

AFFIDAVIT OF SERVICE.

City of Washington, District of Columbia, ss.:

C. Hugh Duffy being duly sworn, deposes and says that he is of counsel for Johann Harmatta in the matter of the Interference Rietzel vs. Harmatta, No. 31,792; that on Thursday, August 3rd 1911 he deposited with the Post Office authorities at Washington, D. C., and caused to be sent prepaid by registered mail a sealed envelope addressed to Messrs. Townsend & Decker, #149 Broadway, New York City, as per attached registry slip, which envelope contained a true copy of the accompanying motion papers.

C. HUGH DUFFY.

Subscribed and sworn to before me this 3rd day of August 1911.

HARRY A. HEGARTY,
Notary Public.

(Seal)

Aug. 3, 1911.

Letter No. 182442.

P. O., Washington (Station G), D. C.
, 191 , from

Received for registration

O. E. Duffy & Son

Addressed to Townsend & Decker

149 B Way N Y C

..1.....class postage prepaid

Postmaster, per H

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 31,792.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

AFFIDAVIT.

To the Hon. Com. of Patents.

Sir:—

C. Hugh Duffy, being duly sworn deposes and says that he is of counsel for Johann Harmatta in the matter of the above entitled interference; that on June 14th 1911 affiant mailed to the Berlin agents of Johann Harmatta preliminary statement as to counts 9, 10 and 11 to be signed and executed by the said Harmatta; and that affiant is this day in receipt of a cablegram from the said Berlin agents of the said Harmatta requesting an extension of time for the filing of said preliminary statement as per Exhibit I attached hereto; that affiant is without direct advice as to the reason of said request for extension, but believes that the said Harmatta is away from the German Empire and therefore cannot be reached in time to execute the said preliminary statement and have same on file by the 14th of August 1911; that this motion is made in good faith and not for the purposes of delay.

C. HUGH DUFFY,

Of Counsel for Harmatta.

Sworn to and subscribed before me this 3rd day of August 1911.

HARRY A. HEGARTY,

Notary Public.

(Seal)

1911

192

Defendant's Exhibit No. 35.

POSTAL TELEGRAPH COMMERCIAL CABLES.

CABLEGRAM.

2 W SF11

From Berlin Aug. 3rd-11.

(O. E.) Duffy,

Washington Distist Columbia, (612 F st)

Harmatta extend time for filing statement.

Rietzel vs. Harmatta.

Interference No. 31,792.

Exhibit I.

Received at

Interior Department,
8th and F Streets, N.W.

(Where any reply should be sent.)

190

Nawrockipatente. 10 :22AM

Docket Clerk.

Aug. 8, 1911.

U. S. Patent Office.

31,792—50.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE NO. 31,792.

RIETZEL

vs.

HARMATTA.

STIPULATION.

Hon. Com. of Patents.

Sir:—

It is hereby stipulated and agreed by and between counsel for the respective parties that the time for filing the preliminary statement of Harmatta as to counts 9, 10 and 11 be extended to September 15th 1911.

O. E. DUFFY & SON,

Counsel for Harmatta.

TOWNSEND & DECKER,

Counsel for Rietzel.

S

("S" in margin.)

Washington, D. C.,

August 3rd, 1911.

HVB

2-224.

Paper No. 51.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

August 10, 1911.
U. S. Patent Office,
Interference Division.
Aug. 10, 1911.
Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6-1652

E. B. MOORE,
Commissioner of Patents.

On August 3, 1911, a motion was filed by Harmatta to extend the time for filing preliminary statements as to counts 9, 10, and 11, to September 15, 1911.

The record shows that on August 8, 1911, the parties entered into a stipulation agreeing to the extension asked by the motion. The stipulation is hereby approved and the time for filing preliminary statements in so far as the counts mentioned therein is concerned is extended to September 15, 1911.

In view of the approval of the stipulation no action upon the motion is necessary, and the motion is therefore dismissed.

H. E. STAUFFER,
Examiner of Interferences.

31,792—52.

Statement of Harmatta.
Filed Sept. 12, 1911.
Approved " 22, 1911.

IN THE UNITED STATES PATENT OFFICE.

INTERFERENCE IN THE U. S. PATENT OFFICE.

No. 31,792.

RIETZEL

vs.

HARMATTA.

PRELIMINARY STATEMENT OF JOHANN HARMATTA.

Johann Harmatta of Szepesváralja, in the Kingdom of Hungary, being duly affirmed, deposes and says that he is a party for the interference declared by the Commissioner of Patents on April 26th 1910 between his application for the United States for ELECTRIC WELDING, Serial No. 183,677, filed December 3rd 1903, and the patent to Adolph F. Rietzel, UNITING THE COMPONENT PARTS OF COMPOSITE SHEET METAL STRUCTURES, No. 928,701, patented July 20th 1909; that he conceived the invention set forth in the interference and the invention as defined by the three claims 10, 11 and 12 which are attached hereto and made a part hereof at the end of the year 1900 without having had then the opportunity of carrying out the invention disclosed in said claims 10, 11 and 12 for lack of time; that on or about the 15th day of September 1901, as he set working his own manufactory at Szepesváralja he first made drawings of the device for carrying out the process set forth in the said claims 10, 11 and 12; that in the first days of October 1901 he modified an old chain-welding machine so as to be able to carry out the process as set forth in the said claims 10, 11 and 12; that on the 15th up to the 20th day of October 1901, he had thin iron sheets welded and attachments welded upon sheet metal vessels successfully and on a manufacturing scale by his workmen Michael Hozza and Michael Tomaskiewicz, with the help of the process forming the object of the said claims 10, 11 and 12; said two workmen, who live here at Szepesváralja and who remember very well to have performed the said work at the mentioned time, being ready to give testimony in respect of the above facts; that in the course of November 1901 he mentioned said electric weldings of thin iron sheets to Mr. Hegenscheidt, Director General of the firm "Oberschlesische Eisen-

industrie A.G." (Upper Silesian Iron Industry Company of shareholders) at Gleiwitz, Silesia, Germany, in the presence of the Chief-Engineer of said Mr. Hegenscheidt, Mr. Wilhelm Fischer, who is at present Director, and that said gentlemen promised to inform the firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz, Silesia, Germany, about the said electric weldings of thin iron sheets; that the firm "Eisenhütte Silesia" received said information from said gentlemen, but raised doubts about the possibility of electrically welding such thin iron sheets without danger of burning through said metal sheets; that said firm "Eisenhütte Silesia", for the sake of verification, sent during the summer of the year 1902, to him (Harmatta) several blanks of sheet metal utensils, which he (Harmatta) welded, with the help of the process forming the object of said claims 10, 11 and 12, to the thorough satisfaction of said "Eisenhütte Silesia"; that when Mr. Schweisfurth of Paruschowitz, technical Director of the firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz, Silesia, Germany, came to him in order to look at the electric weldings and the modified chain-welding machine; and, as said Mr. Schweisfurth had convinced himself by ocular proof that it is very easy to weld such thin iron sheets with the help of the process forming the object of the said claims 10, 11 and 12, the said firm "Eisenhütte Silesia" (Silesia Iron Works) at Paruschowitz acquired the property of said process by a contract made with him (Harmatta) at the date of February 12th, 1902; and that from the month of January 1903 a great number of full-size machines adapted to carry out the welding process forming the object of said claims 10, 11 and 12 have been manufactured by said "Eisenhütte Silesia" for personal use and sale to others; the first new and full-size machine of this kind having been completed in the last days of January 1903 and first successfully operated and used in February 1903 for carrying out his process, in the works of the "Eisenhütte Silesia", in the village of Paruschowitz, Silesia (Germany).

That patents for such invention were applied for and obtained as follows:

Application filed in Germany, March 24th, 1903, published June 20th, 1904, patent not granted;

application filed in Sweden, October 12th, 1903, patent dated October 12th, 1903, No. 24035; published the 16th day of November 1907 and granted the 23rd day of January 1908;

application filed in France, October 13th, 1903, patent dated October 13th, 1903, No. 336187; published the 1st Day of March 1904 and granted the 7th day of January 1904;

application filed in Austria, October 14th, 1903, patent dated August 1st, 1905, No. 24335; published the 8th day of January 1905 and granted the 30th day of March 1906;

application filed in Denmark, October 14th, 1903 published May 16th, 1905, patent not granted;

application filed in Luxemburg, October 14th, 1903, patent dated October 15th, 1903, No. 5300; published the 14th day of October 1903 and granted the 14th day of October 1903;

application filed in Hungary, October 15th, 1903, patent dated October 15th, 1903, No. 31382; published the 29th day of April 1904 and granted the 24th day of August 1904;

application filed in Switzerland, October 15th, 1903, patent dated October 15th, 1903, No. 29723; published June 21st, 1905 and granted the 21st day of June 1905;

application filed in Belgium, October 16th, 1903, patent dated October 16th 1903, No. 173119; published the 20th day of January 1904 and granted the 31st day of October 1903;

application filed in Russia, October 20th, 1903, patent not granted;

application filed in Spain, October 20th, 1903, patent dated December 10th, 1903, No. 32726; published the 10th day of December 1903 and granted the 10th day of December 1903;

application filed in Italy, October 22nd, 1903, patent dated October 22nd, 1903, No. 180/117; published the 16th day of December 1903 and granted the 16th day of December 1903;

application filed in Great Britain, October 23rd, 1903, patent dated October 23rd, 1903, No. 22981/1903; published the 20th day of October 1904 and granted the 25th of August 1904;

application filed in Canada, December 4th, 1903, patent not granted;

application filed in Canada, December 4th, 1903, patent not granted;)

application filed in Japan, December 14th, 1903, patent dated April 6th, 1905, No. 8640; published the 6th day of April 1905 and granted the 6th day of April 1905;

application filed in Romania, July 11th, 1906, patent not granted;

That such invention was fully described in the following patent specifications; Sweden No. 24035; France No. 336187; Austria No. 24335; Hungary No. 31382; Switzerland No. 29723; Great Britain No. 22981/1903; Japan No. 8640.

The knowledge of such invention was first introduced in the United States on December 3rd, 1903 by the papers belonging to said U. S. application of Harmatta, serial number 183,677, for "Improvements in Electric Welding", filed December 3rd, 1903, said application papers having been sent by applicant to Messrs. Marion & Marion at Montreal, Canada, who filed said application to the United States Patent Office on December 3rd, 1903.

JOHANN HARMATTA.

American Consulate General Budapest Hungary, ss.:

S.S.

N. S. 470/1911

Subscribed and affirmed to before me this 26th day of August, 1910.

(Seal)

R. E. MALLEN,
Vice and Deputy Consul General.
Foreign Fee Stamp.

10. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well-defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

11. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

12. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or spots of union, leaving distinct or well-defined areas in which the pieces are not welded together.

2—207.

#53

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

Sept. 13, 1911.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 31,792.

In the matter of the Interference of

HARMATTA

vs.

RIETZEL.

Sir:

You are hereby informed that the preliminary statement of Harmatta, has been received and filed.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

Harmatta,

c/o O. E. Duffy & Son,
612 F St., N.W.,
City.

6—2051

UNITED STATES PATENT OFFICE.

In re Interference :

No. 31,792.

RIETZEL

vs.

HARMATTA.

Statement of Rietzel.
Filed Sept. 14, 1911.
Approved " 22, 1911.

PRELIMINARY STATEMENT OF ADOLPH F. RIETZEL AS TO COUNTS
9, 10 AND 11.

State of Connecticut, County of New London, ss. :

ADOLPH F. RIETZEL, of Charlestown, County of Washington and State of Rhode Island, being duly sworn, doth depose and say that he is a party to the interference declared by the Commissioner of Patents on the 26th day of April, 1910, between the patent of Adolph F. Rietzel, No. 928,701, dated July 20th, 1909, and an application for a similar invention filed by Johann Harmatta, the interference issue being amended June 12, 1911 by adding counts 9, 10, and 11.

That he conceived the invention set forth in the added counts 9, 10 and 11 during the latter part of October or first part of November 1897;

That, as near as deponent can at this time fix the date, the invention set forth in said added counts was successfully reduced to practice in the latter part of July 1898, and at the same time was first explained and disclosed to others;

That sketches of the application of the invention were made in the early part of June 1904 and from time to time since that date innumerable sketches have been made of the invention as applied to various articles of manufacture;

That the invention has been put to very extensive use in the manufacture of numerous sheet and other metal work of various kinds.

ADOLPH F. RIETZEL.

Sworn to before me this 21st day of August, 1911.

(Seal)

A. G. MARTIN,
Notary.

1918

Defendant's Exhibit No. 35.

199

2-207.

#55

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

Sept. 15, 1911.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 31,792.

In the matter of the Interference of

HARMATTA

vs.

RIETZEL.

Sir:

You are hereby informed that the preliminary statement of Rietzel, has been received and filed.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.

Rietzel,

c/o Townsend & Decker,
149 Broadway,
New York, N. Y.

6-2051

1919

200

Defendant's Exhibit No. 35.

HVB

2—224.

Paper No. 56.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

September 25, 1911.

U. S. Patent Office,
Interference Division,
Sept. 25, 1911.
Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 31,792.

RIETZEL

vs.

JOHANN HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6—1652

E. B. MOORE,
Commissioner of Patents.

This interference having been redeclared and new counts added on June 13, 1911, times for taking testimony and for final hearing are hereby reset as to all counts as follows:

Rietzel's testimony in chief to close November 25, 1911.

Harmatta's testimony to close December 26, 1911.

Rietzel's rebuttal testimony to close January 10, 1912.

Final hearing: March 13, 1912, at 11 A.M.

H. E. STAUFFER,
Examiner of Interferences.

Mail Room.

Oct. 17, 1911.

U. S. Patent Office.

Docket Clerk.

Oct. 17, 1911.

U. S. Patent Office.

31,792—57.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

New York, October 16th, 1911.

Messrs. O. E. Duffy & Son,
612 F Street, N.W.,
Washington, D. C.

Sirs:

PLEASE TAKE NOTICE that on Friday, October 20th 1911, at 10 o'clock a.m., or as soon thereafter as counsel may be heard, before the Examiner of Interferences, we shall move to transmit the accompanying motion for dissolution of this interference as regards the counts 9, 10 and 11, to the proper Primary Examiner for his determination and shall also move for a stay of proceedings pending the final determination of said motion.

TOWNSEND & DECKER,
Attorneys for Rietzel.

AFFIDAVIT OF SERVICE.

State of New York, County of New York, ss.:

FREDERICK B. TOWNSEND, being duly sworn, deposes and says: that he is a Clerk in the office of Messrs. Townsend & Decker, 149 Broadway, New York; that on Monday, October 16th 1911, he deposited with the Post-office authorities at New York City, N. Y., and caused to be sent prepaid by registered mail, a sealed envelope addressed to Messrs. O. E. Duffy & Son, 612 F. Street, N.W., Washington, D. C., as per attached registry slip, which envelope contained a copy of the accompanying motion papers.

FREDERICK B. TOWNSEND.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE PRIMARY EXAMINER.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

MOTION TO DISSOLVE.

NOW COMES ADOLPH F. RIETZEL, a party to the above entitled Interference, by his attorneys, and moves that the Interference as regards counts 9, 10 and 11 be dissolved on the following grounds:

FIRST: That the party Harmatta has no right to make the claims forming the subject of the Interference for the reason that he disclaimed the subject-matter of the counts of the Interference in his substitute specification filed May 14th 1904, beginning with the paragraph "As Fig. 1 shows" on page 2 and again repeated the disclaimer by his amendment to said specification filed May 18th 1906, and he did not withdraw said disclaimer by merely complying with the Examiner's requirement when he insisted on said requirement that "the description should be confined to applicant's process of welding and not to a discussion of prior processes and their disadvantages."

SECOND: That the party Harmatta has no right to make the claims forming the subject of the Interference for the reason that there is no patentable difference between carrying out any process of welding by applying pressure before and during the period of supplying the electric current and by applying pressure only at the moment of the electric current supply as stated at lines 4 to 10 on page 1 of Harmatta's original specification, and the applicant Harmatta by his amendments eliminating the method consisting in applying pressure only at the moment of current supply has disclaimed that method as his invention and therefore has no right to make any claim founded upon the use of pressure and current.

TOWNSEND & DECKER,

Attorneys.

New York, October 14th 1911.

LBF

2—224

Paper No. 58

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.,

October 20, 1911.
U. S. Patent Office,
Interference Division.
Oct. 20, 1911, Mailed

BEFORE THE EXAMINER OF INTERFERENCES

IN RE INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6—1652

E. B. MOORE,
Commissioner of Patents.

Rietzel on October 17, 1911, presented a motion to transmit a motion to dissolve.

The motion is directed only to counts 9, 10 and 11, which counts were added to the interference by a redeclaration thereof on June 13, 1911.

It is well settled that motions to dissolve will not be transmitted with respect to counts which have been added under the provisions of Rule 109, where the parties have had full opportunity to raise any questions which may be raised upon motion to dissolve. In fact, Rule 109 as it now stands specifically states that such motion will not be transmitted.

The motion to transmit is denied.

Limit of appeal: November 3, 1911.

The taking of testimony is suspended.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
Nov. 29, 1911.
U. S. Patent Office.

Intf. No. 31,792.

Paper No. 61

IN THE UNITED STATES PATENT OFFICE

RIETZEL

vs.

HARMATTA.

INTERFERENCE NO. 31,792.

BRIEF FOR HARMATTA ON RIETZEL'S APPEAL FROM THE
EXAMINER OF INTERFERENCES DENIAL OF A MOTION TO
TRANSMIT A MOTION TO DISSOLVE AS TO ADDED COUNTS.

Honorable Commissioner of Patents.

Sir:

This case comes before your Honor on appeal by Rietzel from a decision of the Examiner of Interferences, dated October 20, 1911, denying a motion to transmit a motion to dissolve with respect to counts (9, 10 and 11) added to the interference in a re-declaration thereof by the Primary Examiner June 13, 1911.

This interference was declared April 14, 1910, and involved eight claims of Rietzel's patent No. 928,701, dated July 20, 1909.

Rietzel's application was filed February 24, 1905.

Harmatta's application was filed December 3, 1903.

Preliminary statements were duly filed on behalf of both parties

Under date of September 9, 1910, Rietzel filed a motion for dissolution of the interference, setting up three grounds, which are as follows:

"FIRST, that the party Harmatta has no right to make the claims forming the subject of the interference for the reason that he disclaimed the subject matter of the counts of the interference in his substitute specification filed May 14, 1904, beginning with paragraph 'As Figure 1 shows,' on page 2, and again repeated the disclaimer by his amendment to said specification filed May 18, 1906, and he did not withdraw said disclaimer by merely complying with the Examiner's requirement when he inserted, on said requirement, that 'the description should be confined to applicant's process of welding, and not to a discussion of prior processes and their disadvantages.'

"SECOND, that the party Harmatta has no right to make the claims forming the subject of the interference for the reason that there is no patentable differences between carrying

1928

out any process of welding by applying pressure before and during the period of supplying electric current, and applying pressure only at the moment of the electric current supply, as stated in lines 4-10 on page 1 of Harmatta's original specification, and the applicant Harmatta by his amendments eliminating the method consisting in applying pressure only at the moment of current supply has disclaimed that method as his invention, and therefore has no right to make any claim found upon the use of pressure and current.

"THIRD, that the party Harmatta has no right to make the claims forming the subject of counts 4, 5, 6, 7 and 8 of the issue of this interference for the reason that he has not filed the oath required by the Rule 48 and the Patent Statutes."

Under date of September 17, 1910 the Examiner of Interferences transmitted the motion as to the first two grounds, but denied it as to the third, following the practice, which is that the question of the sufficiency of the oath, either original or supplemental, is an ex parte matter which may be adjudicated after determination of the contest.

Under date of September 23, 1910 Rietzel appealed from this denial of his third ground.

Under date of November 23, 1910 Rietzel appealed from this denial of his third ground.

Under date of November 23, 1910 the Commissioner of Patents affirmed the decision of the Examiner of Interferences.

Under date of December 28, 1910 Rietzel asked for a re-hearing of his appeal.

Under date of December 29, 1910 the petition for re-hearing was denied.

Under date of December 14, 1910 Rietzel's motion for dissolution was set for hearing before the Primary Examiner as of the date January 5, 1911.

By stipulation this hearing was postponed until Thursday, February 2, 1911.

On January 7, 1911, Harmatta moved to add claims 2, 3 and 4 of the Rietzel patent in interference to the present issues, as counts 9, 10 and 11, which motion was duly transmitted under date of January 14, 1911, by the Examiner of Interferences.

Under date of January 18, 1911 the Primary Examiner set the motion of Harmatta to amend as of the date February 2, 1911, being the same time that had been set for Rietzel's hearing on his motion to dissolve.

Under date of January 18, 1911 Rietzel appealed from the ruling of the Examiner of Interferences transmitting the motion to amend brought by Harmatta to the Commissioner of Patents.

Under date of January 26, 1911 the Commissioner affirmed the decision of the Examiner of Interferences transmitting Harmatta's motion to amend.

After these various motions, and under date of February 2, 1911, this case was heard, both on Rietzel's motion to dissolve, and Harmatta's motion to amend, full argument being accorded both sides, and all of the questions raised by the motions were considered.

Under date of June 5, 1911, the Primary Examiner denied Rietzel's motion to dissolve, and granted Harmatta's motion to amend.

Under date of June 9, 1911, Rietzel moved to re-hear on the motion to dissolve.

Under date of June 12, 1911, the Primary Examiner denied the motion for re-hearing, and under the same date re-declared the interference, adding counts 9, 10 and 11 presented by Harmatta.

Harmatta, under date of September 12, 1911, filed his additional preliminary statement with respect to counts 10, 11 and 12.

Under date of September 14, 1911, Rietzel filed his statement as to the added counts.

Under date of September 25, 1911 the times for taking testimony was fixed.

Under date of October 17, 1911, Rietzel brought a motion to dissolve the interference as to counts 9, 10 and 11, alleging that the party Rietzel had had no hearing with respect to the question of the right of Harmatta to make the counts 9, 10 and 11, since the original motion for dissolution embraced the original eight counts of the issue.

This is the chronology of the actions in this case.

The ruling of the Examiner of Interferences in this case was correct.

Rule 109 provides that a party to an interference may amend his application by filing claims which, in his opinion should be made the basis of an interference between himself and other parties, and that on admission of such amendment the interference will be re-declared. Rule 109 finally points out that

"Motions for dissolution will not be transmitted in regard thereto (i. e. the added claims) where the questions raised could have been disposed of in connection with the admission of the claims." (Paren's ours.)

So far as Harmatta is advised this is the rule of practice, and if it is, Rietzel is without standing in his attempt to transmit a motion for dissolution with respect to these added counts to the Primary Examiner.

The record of his case, as given above, shows that this interference has been pending since April 14, 1910, and for over a year and a half has been through a series of motions and appeals, all of which, with the exception of Harmatta's motion to amend, were initiated by Rietzel.

The record further shows that Harmatta, on January 7, 1911, moved to add these claims to the interference.

It seems absurd in the extreme for Rietzel to come in at this late

day and argue that he has had no opportunity to be heard on Harmatta's motion to add the counts, when the record shows that the Primary Examiner advised the parties that on February 2, 1911 the motions of Rietzel to dissolve, and of Harmatta to amend would be heard.

On that day (February 2, 1911) the parties were heard, and both the motion to dissolve, and the motion to amend were presented.

As the result of that hearing the motion to dissolve was denied, and the motion to amend was granted, so that for nearly a year Rietzel has been advised of Harmatta's motion to amend, he has had full opportunity to contest it, and in fact did contest it before the Examiner of Interference, and afterwards by appeal to the Commissioner when the Examiner of Interferences transmitted the motion to amend.

It comes with poor grace at this late day on the part of Rietzel to advance the childish argument that he has had no hearing upon the question of Harmatta's right to make the claims 9, 10 and 11.

On the contrary the present case shows a multiplicity of dilatory motions and appeals on behalf of Rietzel, the moving party, his tactics seeming rather such as seek delay than a speedy settling of the case on proofs and final hearing.

The decision relied on by the moving party, Rietzel, is without force for the reason that that ruling was made prior to the amendment of Rule 109, and it has been held in the decision of Gibson vs. Kitsee, 1909, C. D. 146 that the refusal to transmit motions to dissolve with respect to counts added under Rule 109 is in accord with the terms of that Rule, 109, which expressly prohibits the transmission of such a motion.

This was held in a case where the moving party alleged surprise at the Primary Examiner's decision and would seem to settle the present case beyond question, because Rietzel can set up no reason why the Rule, 109, should be disregarded, or its application modified.

Respectfully,
O. E. DUFFY & SON,
Attorneys for Harmatta.

Docket Clerk.

Nov. 29, 1911.

U. S. Patent Office.

Division.

Nov. 29, 1911.

U. S. Patent Office.

Intf. No. 31,792.

Paper No. 62.

UNITED STATES PATENT OFFICE.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

INTERFERENCE NO. 31,792.

BEFORE THE HONORABLE COMMISSIONER OF PATENTS ON APPEAL
FROM THE DECISION OF THE EXAMINER OF INTERFERENCES.

BRIEF FOR RIETZEL.

This case comes up on appeal by the party Rietzel from the decision of the Examiner of Interferences dated October 20th 1911, refusing to transmit to the Primary Examiner the motion to dissolve brought by Rietzel.

This motion relates to counts 9, 10 and 11 and is a substantial duplicate of the motion to dissolve previously brought with regard to the counts 1, 2, 3, 4, 5, 6, 7 and 8, the counts 9, 10 and 11 having been added since the bringing of that motion.

This motion should be heard and decided by the Primary Examiner as it does not anywhere appear in the record of this case that said Primary Examiner has considered the relation of the alleged disclaimer to the counts 9, 10 and 11, the Examiner stating in his decision dated June 5th 1911, by which the counts 9, 10 and 11 were permitted to be added, that Harmatta could make these claims for the reason that they read as well on his disclosure as the other claims, and it does not appear that the Examiner in any way considered the disclaimer with relation to these added counts or that Harmatta was entitled to make these claims in view of the alleged disclaimer made the subject of the present motion.

It is for the purpose of securing a definite decision upon this point that the present motion to dissolve should be transmitted and decided and the party Rietzel respectfully calls the Commissioner's attention to his Brief filed in connection with the motion for transmission heard before the Examiner of Interferences on the 20th day of October, 1911.

TOWNSEND & DECKER,
Attorneys.

Dated: Nov. 28th 1911.

November 29, 1911.
Recorded Vol. 103.
Page 368.

Intf. No. 31,792.

Paper No. 63.
SET

IN THE UNITED STATES PATENT OFFICE.

RIETZEL

vs.

HARMATTA.

PATENT INTERFERENCE NO. 31,792.

APPEAL ON MOTION.

ELECTRIC WELDING.

Patent granted Adolph F. Rietzel July 20, 1909, No. 928,701, on application filed February 24, 1905.
Application of Johann Harmatta filed December 3, 1903, No 183,677.

Messrs. Townsend & Decker for Rietzel.
Messrs. O. E. Duffy & Son for Harmatta.

This is an appeal by Rietzel from the decision of the examiner of interferences refusing to transmit a motion to dissolve the interference as to certain claims which were made the issue of the interference by virtue of a motion to add them, under the provisions of Rule 109.

It is well settled that when a motion is brought to add claims under the provisions of Rule 109, each of the parties must present before the Primary Examiner all the reasons affecting the question of the propriety of the insertion of the claims, and the consequent amendment of the issue in interference. It would only tend to delay proceedings to hear and determine a motion to add claims under Rule 109, and subsequently to transmit, hear and determine a motion to dissolve the interference as to the very claims added under the prior motion. The propriety of including these claims in the issue was affirmatively and finally decided upon the motion brought under Rule 109.

The Examiner of Interferences is right in refusing to transmit the present motion to dissolve and his decision is affirmed.

C. C. BILLINGS,
First Assistant Commissioner.

December 5, 1911.

1933

214

Defendant's Exhibit No. 35.

EEG

Intf. No. 31,792. Paper No. 64.

Letter No.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

Washington, December 6, 1911.

In the Matter of the Interference of

RIETZEL

vs.

HARMATTA.

INTF. No. 31,792.

APPEAL ON MOTION.

Sir:

You are hereby informed that the decision of the Examiner of Interferences has been affirmed by the First Assistant Commissioner. Please find enclosed herewith a copy of the decision.

By direction of the Commissioner:

Very respectfully,

W. F. WOOLARD,
Chief Clerk.
F

Adolph F. Rietzel,
c/o Townsend & Decker,
149 Broadway, New York City.

Johann Harmatta,
c/o O. E. Duffy & Son,
612 F St. N.W., Washington, D. C.

M.C.V.

2—224

Paper No. 65.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C.

Dec. 9, 1911.
U. S. Patent Office,
Interference Division,
Dec. 9, 1911, Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6—1652

E. B. MOORE,
Commissioner of Patents.

The First Assistant Commissioner having affirmed the decision of the Examiner of Interferences denying transmission of the motion for dissolution, filed by Rietzel on October 17, 1911, proceedings are this day resumed and times for taking testimony and for final hearing are reset as follows:

Rietzel's testimony in chief to close Feb. 9, 1912.

Harmatta's testimony to close March 11, 1912.

Rietzel's rebuttal testimony to close March 26, 1912.

Final hearing: May 28, 1912, at 11 A.M.

H. E. STAUFFER,
Examiner of Interferences.

1935

216

Defendant's Exhibit No. 35.

Docket Clerk
Feb. 8, 1912.
U. S. Patent Office.

31,792—66

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

INTERFERENCE No. 31,792.

STIPULATION.

("S" and "notice" in margin.)

Hon. Commissioner of Patents.

Sir:

It is hereby stipulated and agreed between the parties to this interference through their respective counsel, the Commissioner of Patents consenting, owing to the absence of the party Rietzel probably in Europe, that the times now set for taking testimony and for final hearing may be reset so as to expire thirty days later.

TOWNSEND & DECKER,

Counsel for Rietzel.

O. E. DUFFY & SON,

Counsel for Harmatta.

New York, February 6th 1912.

LBF

2—224

Paper No. 67.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

February 10, 1912.

U. S. Patent Office.
Feb. 10, 1912.
Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 31,792

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

E. B. MOORE,
Commissioner of Patents.

6—1652

The stipulation filed February 8, 1912, is approved and the times herein are extended as follows:

Rietzel's testimony in chief to close March 11, 1912.

Harmatta's testimony to close April 11, 1912.

Rietzel's rebuttal testimony to close April 26, 1912.

Final hearing: June 28, 1912, at 11 A.M.

Notice is given, however, that no further extension of Rietzel's time to take testimony in chief will be granted without a verified showing of reasons why the testimony was not taken within the time hereinabove allowed.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
Mar. 9, 1912.
U. S. Patent Office.

31,792—68.

March 9, 1912.

Hon. Commissioner of Patents,
Washington, D. C.
Sir:—

In re Interference:

RIETZEL

v/s.

HARMATTA.

No. 31,792.

BEFORE THE EXAMINER OF INTERFERENCES.

We present herewith stipulation between the parties to the above interference requesting extension of time for taking testimony. In support of the request we beg to call attention to the accompanying affidavit of Charles F. Tischner, Jr.

Respectfully,

TOWNSEND & DECKER.

Docket Clerk.
Mar. 9, 1912.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE No. 31,792.

ADOLPH F. RIETZEL

v/s.

JOHANN HARMATTA.

STIPULATION.

Hon. Commissioner of Patents.
Sir:—

It is hereby stipulated and agreed by and between the parties to this interference, through their respective counsel, the Commis-

sioner of Patents consenting, that the times now set for taking testimony and for final hearing be extended sixty (60) days.

("S" in margin.)

TOWNSEND & DECKER,
Counsel for Rietzel.
O. E. DUFFY & SON,
Counsel for Harmatta.

New York,
March 9th, 1912.

Docket Clerk.
Mar. 9, 1912.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

RIETZEL

vs.

HARMATTA.

No. 31,792.

IN SUPPORT OF REQUEST FOR EXTENSION OF TIME TO TAKE
RIETZEL'S TESTIMONY-IN-CHIEF.

AFFIDAVIT.

District of Columbia, ss:

CHARLES F. TISCHNER, JR., being duly sworn, deposes and says that he is a member of the firm of Townsend & Decker, attorneys for the party Rietzel in the above-entitled interference; that deponent has this case in his personal charge; that for upwards of six months past negotiations have been pending for a settlement of the interference between the parties; that since the early part of December, 1911, and until about a week ago, deponent has been away from his office and, except for the time consumed in travel, has been in Berlin, Germany, negotiating for the purchase of the Harmatta invention involved in this interference for and on behalf of the owners of the Rietzel patent; that owing to such negotiations it has been impossible to take any testimony on behalf of Rietzel; that papers have been executed transferring the Harmatta application involved in this interference to the Thomson Electric Welding Co., owner of the Rietzel patent, but that such papers have not yet been received in this country; that, according to deponent's best knowledge and belief, such papers are now in

1929

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Defendant's Exhibit No. 35.

transit and should arrive within a short time; that it is desired to take testimony in the interference on behalf of the party Rietzel; that it is expected that such testimony can and will be taken and completed within the sixty days' extension of time now requested, and that the request is made in good faith and not for the purposes of delay.

CHAS. F. TISCHNER, JR.

Sworn to and subscribed before me this 9th day of March, 1912.

(Seal)

A. M. PARKINS,
Notary Public, D. C.

M.C.V.

2-224.

Paper No. 69.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

March 11, 1912.

U. S. Patent Office,
Interference Division.
Mar. 11, 1912.
Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

6-1652

E. B. MOORE,
Commissioner of Patents.

The stipulation filed March 9, 1912, is approved and the times herein are extended as follows:

Rietzel's testimony in chief to close May 11, 1912.

Harmatta's testimony to close June 11, 1912.

Rietzel's rebuttal testimony to close June 26, 1912.

Final hearing: August 27, 1912, at 11 A.M.

H. E. STAUFFER,
Examiner of Interferences.

Docket Clerk.
May 11, 1913.
U. S. Patent Office.

70.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

INTERFERENCE NO. 31,792.

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

STIPULATION.

Hon. Commissioner of Patents.

Sir:

It is hereby stipulated and agreed by and between the parties to this interference, through their respective counsel, the Commissioner of Patents consenting, that the times now set for taking testimony and for final hearing be extended sixty (60) days.

("S" in margin.)

TOWNSEND & DECKER,

Counsel for Rietzel.

O. E. DUFFY & SON,

Counsel for Harmatta.

New York, May 10th, 1912.

M.C.V.

2—224.

Paper No. 71.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

May 13, 1912.

U. S. Patent Office,
Interference Division.

May 13, 1913.

Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

E. B. MOORE,

Commissioner of Patents.

Defendant's Exhibit No. 35.

The stipulation filed May 11, 1912, is approved and the times herein are extended as follows:

Rietzel's testimony in chief to close July 11, 1912.

Harmatta's testimony to close Aug. 12, 1912.

Rietzel's rebuttal testimony to close Aug. 27, 1912.

Final hearing: October 29, 1912, at 11 A.M.

R. E. MARINE,
Act. Examiner of Interferences.

Docket Clerk.

Jul. 17, 1912.

U. S. Patent Office.

31,792—72.

IN THE UNITED STATES PATENT OFFICE.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

Washington, D. C., July 15, 1912.

Messrs. Townsend & Decker,

Attorneys-at-Law,

149 Broadway,

New York, N. Y.

Sirs:—

Please take notice that on Tuesday, July 23rd 1912 at 10 o'clock A.M., or as soon thereafter as counsel may be heard before the Examiner of Interferences, we shall present the accompanying motion for judgment on the record in behalf of the party Harmatta.

O. E. DUFFY & SON,

Attorneys for Harmatta.

Service of the accompanying motion papers acknowledged this 16th day of July 1912.

TOWNSEND & DECKER,
Attorneys for Rietzel.

Docket Clerk.
Jul. 17, 1912.
U. S. Patent Office.

IN THE UNITED STATES PATENT OFFICE.
BEFORE THE HONORABLE EXAMINER OF INTERFERENCES.

In re Interference:

ADOLPH F. RIETZEL

vs.

JOHANN HARMATTA.

No. 31,792.

MOTION FOR JUDGMENT.

Now comes Johann Harmatta by his duly authorized attorneys and moves that judgment of priority be entered in favor of the party Harmatta for the reason that the time set by the Honorable Examiner of Interferences for the taking of testimony in behalf of the party Rietzel has expired and no testimony has been filed within the time set in behalf of the party Rietzel.

O. E. DUFFY & SON,
Attorneys for Harmatta.

Washington, D. C., July 15th, 1912.

1913

224

Defendant's Exhibit No. 35.

M.C.V.

2—224.

Paper No. 73.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C.,

July 24, 1912.

U. S. Patent Office,
Interference Division.
Jul. 22, 1912.
Mailed.

BEFORE THE EXAMINER OF INTERFERENCES.

IN RE INTERFERENCE NO. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge of Interferences in regard to the above-cited case.

Very respectfully,

E. B. MOORE,
Commissioner of Patents.

6—1652

The motion filed by Harmatta on July 17, 1912, for judgment under Rule 119 is granted to the extent that judgment on the record will be rendered against Rietzel, the junior party, for the reason that he has failed to take any testimony within the time allowed for that purpose, unless he shall on or before August 3, 1912, show good and sufficient cause why such action should not be taken.

H. E. STAUFFER,
Examiner of Interferences.

Defendant's Exhibit No. 35.

225

Docket Clerk.
Jul. 25, 1912.
U. S. Patent Office.

31,792—74.

IN THE UNITED STATES PATENT OFFICE.

INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

To the Honorable Commissioner of Patents.
Sir:—

We hereby revoke all powers of attorney or authorities to inspect
the Interference file in the above entitled case.

Respectfully,

O. E. DUFFY & SON,
Attys. for Harmatta.

HVB

2—224.

Paper No. 75.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

WASHINGTON, D. C.,

August 7, 1912.
U. S. Patent Office,
Interference Division.
Aug. 7, 1912.
Mailed.

BEFORE THE EXAMINER OF INTERFERENCES

IN RE INTERFERENCE No. 31,792.

RIETZEL

vs.

HARMATTA.

Please find below a communication from the Examiner in charge
of Interferences in regard to the above-cited case.

Very respectfully,

6—1652

E. B. MOORE,
Commissioner of Patents.

Whereas, Rietzel, the junior party, has failed to make any showing why judgment on the record should not be entered against him, in view of his failure to take any testimony, and whereas the time allowed for such action has expired, pursuant to the notice in this case of July 24, 1912, priority of invention of the subject matter in issue is hereby awarded to Johann Harmatta, the senior party.

Limit of appeal: August 27, 1912.

H. E. STAUFFER,
Examiner of Interferences.

31,792.

RIETZEL

vs.

HARMATTA.

1. APR 26 1910 Declaration Statements due June 27/10.
2. May 9/10 Change of address
3. " 31/10 Registered notice of intf. to patentee returned by P.O.
4. June 1 - Address of Reitzel requested of attorneys
5. June 4/10 Letter from Atty for Rietzel
6. " 8 " Notice of intf. re-registered to Rietzel
7. " 14 " Stmt of Rietzel
8. " " " Letter to "
9. " 18/10 Registry return receipt.
10. " 20 " Stmt of Harmatta
11. " 21 " Letter to "
12. July 2, " Testimony set. Hearing Jan. 18/11
13. July 6-10 Power to inspect
14. Sept. 9-10 Motion to dissolve by Rietzel
15. Sept. 14-10 Brief for Harmatta
16. Sept. 17/10 Motion to transmit by Rietzel granted as to grounds (1) and (2) and denied as to ground 3 L.A. Sept. 27/10 Test'y Suspended
17. " 23, " Appeal to Comm'r by Rietzel on Motion
18. " 23, " Notice of Hearing,
19. Oct. 26 " Stipulation for postponement
20. " 27 " Notice of "
21. Oct 26/10 Entry of Appearance.
22. Nov. 23 " Brief for Rietzel
23. Dec. 3 " Commr's decision
24. " " " Notice of "
25. Dec. 14 " Hearing by Pr Examiner
26. " 23 " Petition by Rietzel for rehearing
27. " 29 " Commr's decision (paper # 26)
28. " " " Notice of "

29.			
30.	Dec	31-1910	Stip. by Parties to extend time
31.	Jan	9-1911	Hearing by Pr. Examiner
1.			
32.	Jan	7/11	Motion by Harmatta to party to interference
33.	Jan.	13/11	Request of Prim. Ex for jurisdiction
34.	"	14 "	Motion by Harmatta to amend transmitted
35.	Jan	14./11	Letter from Rietzel
16.	Jan	18-1911	Hearing by Pr. Examiner
17.	"	" "	Appeal by Rietzel on Motion
18.	"	" "	Notice of hearing
19.	"	23 "	Request of Harmatta for postponement
20.	"	24 "	Brief for Rietzel
21.	"	25 "	Comm's decision
22.	"	26 "	Notice of "
43.	Jan	27/11	Power of Atty
24.	Feb	2-1911	Brief for Rietzel
25.	June	5/11-	Decision of Primary Examiner
26.	"	9 "	Motion
27.	"	12 "	Examiner's decision
48.	"	13/11-	Intf. redeclared. New Counts added. State- ment due Aug. 14/11.
49.	Aug	3/11	Motion to extend time by Harmatta
50.	Aug	8/11	Stipulation to extend time
51.	"	10 "	Stip. approved. Statements (cts. 9, 10, 11) due Sept. 15/11. Motion dismissed.
52.	Sept	12 "	Statement of Harmatta
53.	"	13 "	Letter to "
54.	"	14 "	Statement of Rietzel
55.	"	15 "	Letter to "
56.	"	25 "	Times set as to all cts. F.H.Mar 13/12.
57.	Oct	17/11	Motion to dissolve by Rietzel
58.	Oct	20/11	Motion to dissolve by Rietzel denied transmis- sion L.A. Nov. 3/11 Testy. Suspended.
59.	Nov.	1 "	Appeal by Rietzel on Motion
60.	"	" "	Notice of hearing
61.	Nov.	29, 1911	Brief for Harmatta
62.	"	" "	Brief for Rietzel
63.	Dec.	5 "	Comm's decision
64.	"	6 "	Notice of "
65.	"	9 "	Proceeding resumed. Testy. set F H May 28/12
66.	Feb	8/12	Stipulation to extend time
67.	Feb	10 "	Times extended. F. H. June 28/12.
68.	Mch	9/12	Stipulation to extend time
69.	"	11 "	Times extended F.H Aug 27/12
70.	May	11/12	Stipulation to extend time
71.	"	13 "	Times extended. F.H.Oct. 29/12.
72.	July	17/12	Motion for Judgt. by Harmatta
73.	"	24 "	Motion granted O.C. against Rietzel Aug.3/12

74. " 25/12 Revocation of Authoritee to inspect. by Harmatta
 75. Aug 7/ " Decided favor Harmatta. L.A. Aug 27/12.
 Entered up Sep 11, 1912

WM. J. RICH,
Examr. Div. 3.

ATTORNEYS.

Adolph F. Rietzel,
 c/o Townsend and Decker,
 149 Broadway, New York, N. Y.

Johann Harmatta,
 c/o O. E. Duffy & Son,
 612 F St., N.W., City.

Entry of Appearance.
 H. C. TOWNSEND.
 C. F. TESCHNER, JR.

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a ^{photographic} ~~copy~~ copy from the record
of this office of an instrument of writing

Recorded April 5, 1912,


in

Liber A-ov, page 311.

Said record has been carefully compared with the original and is a correct
true and correct copy of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand

and caused the seal of the Patent Office to be affixed
at the City of Washington, this 17th day
of March, in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-third.



W. H. H. H.

Acting Commissioner of Patents.

1919

Assignment

WHEREAS, I, JOHANN HARWATTA, of Schmiedefeld, Hungary, invented certain new and useful improvements in Electric Welding; and I have made a certain application for letters patent of the United States, which application was filed in the United States Patent Office on or about the 3rd day of December, 1903 and bears S. N. 123,677; and

WHEREAS, the THOMSON ELECTRIC WELDING COMPANY, a corporation duly organized and existing under the laws of the State of Massachusetts and having an office in the City of Lynn, Mass., is desirous of acquiring the said invention and application for patent and Letters Patent to be granted for the same in and for the United States;

NOW THEREFORE, To All Whom It May Concern

Be it known that, for and in consideration of the sum of One (\$1) Dollar to me in hand paid by the THOMSON ELECTRIC WELDING COMPANY and other good and valuable consideration, the receipt of which is hereby acknowledged, I, the said JOHANN HARWATTA, have sold, assigned, transferred and set over and by these presents do sell, assign, transfer and set over unto the THOMSON ELECTRIC WELDING COMPANY, its successors and assigns, the entire right, title and interest in and

1950

to the said invention, application for patent and Letters Patent to be issued for the same in and for the United States, the said invention, application for patent and letters patent together with any reissue or reissues or extension or extensions of the same to be held and enjoyed by the said THOMSON ELECTRIC WELDING COMPANY for its own use and behoof and for the use and behoof of its successors, assigns or other legal representatives to the full end of the term for which said

-2-

letters patent are or may be granted, reissued or extended. And I do hereby authorize and request the COMMISSIONER OF PATENTS of the UNITED STATES to issue the letters patent for said invention to the THOMSON ELECTRIC WELDING COMPANY as the sole owner thereof.

And I do further covenant and agree that I will render the said THOMSON ELECTRIC WELDING COMPANY, its successors, assigns or other legal representative all assistance within my power to secure the grant of a patent or patents for said invention and that I will upon request execute all oaths or other papers which may be required or deemed necessary to obtain said patent or patents necessary in connection therewith.

And I do further covenant and agree that I will, at any time upon request, communicate to said THOMSON ELECTRIC WELDING COMPANY, its successors, assigns or other legal representatives, any facts relating to said invention and letters patent or the history thereof known to me and testify as to the same when requested to do so by the said THOMSON ELECTRIC WELDING COMPANY but at the expense of said Company for said services.

And I do further covenant and agree that should it be desired or necessary to file a division of said application that I will upon request sign and execute such application papers and do all other lawful acts as may be necessary to apply for patent for such divided matter without further compensation but at the expense of said assignee.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my seal at the City of Berlin, Germany, this Berlin day of 3 Febr. 1912.

WITNESSES:

Johann Harmatta.

Henry Hasper.

Woldemar Haupt

(OVER)

1951

Acknowledgment.

United States Consulate
Consulate General of the United States of America } s. s.
City of BERLIN Empire of Germany
Berlin, Germany.

On this 3rd day of February 1912 before me personally appeared Johann
Harnatta, to me personally known and known to me to be the individual described
in and who executed the above instrument and who acknowledged to me that he
executed the same for the purposes therein set forth.

Louis C. Dreyfus Jr.

CONSULATE GENERAL
OF THE UNITED STATES
BERLIN

Deputy Consul General of the United States
of America at Berlin Germany.

No. 206.

Recorded April 5, 1912.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records
of this office of an instrument of writing

Recorded June 22, 1905,

in

Liber H-72, page 141.

Said record has been carefully compared with the original and is a correct
translation of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 31st day
of March, in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-third.

J. M. H. C.

Acting Commissioner of Patents.

1953 /14/

A S S I G N M E N T .

WHEREAS, I, ADOLPH F. RIETZEL, have invented certain new and useful improvements in Method of Electric Welding, which are set out in a certain application for Letters Patent of the United States, filed by me in the United States Patent Office, on the 24th day of February 1905, application S. N. 247,081 and

WHEREAS, the THOMSON ELECTRIC WELDING COMPANY, a corporation organized and existing under the laws of the State of Maine, and having an office at Lynn, in the State of Massachusetts, is desirous of acquiring the entire right, title and interest in and to the said invention, for the whole world, and in and to the Letters Patent to be issued for the same in the United States and all other countries:

NOW, THEREFORE, To All Whom It May Concern: Be it known that for and in consideration of the sum of One (\$1.00) Dollar to me in hand paid, by the said THOMSON ELECTRIC WELDING COMPANY, and other good and valuable consideration, the receipt of which is hereby acknowledged, I, the said ADOLPH

1954

P. RIETZEL, have sold, assigned, transferred and set over, and by these presents, do sell, assign, transfer and set over unto the said THOMSON ELECTRIC WELDING COMPANY, its successors and assigns, the entire right, title and interest in and to the invention and application for patent in and for the United States, and all other countries, the said invention and the Letters Patent to be issued for the same, together with any reissue or reissues or extension or extensions of said Letters Patent to be held and enjoyed by the said THOMSON ELECTRIC WELDING COMPANY, its successors, assigns or other legal representatives, for its own use and behoof, and for the use and behoof of its successors, assigns or other legal representatives, to the end of the term or terms for which said Letters Patent are or may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made. And I do hereby authorize and request the Commissioner of Patents of the United States to issue the Letters Patent for said invention to the said Company as the sole owner thereof.

And I do hereby further authorize the said THOMSON ELECTRIC WELDING COMPANY to apply for and obtain patents in its own name in all other countries, and to sign for me and in my name whenever it may be necessary, all papers requisite for applying for and obtaining Letters Patent in any foreign countries.

And I do further covenant and agree that I will execute such further application papers, powers of attorney or other instruments in writing as may be necessary to enable said Company to obtain foreign Letters Patent either in my or in its own name, or to vest in said Company the entire right, title and interest in said invention and any Letters Patent therefor.

And I do hereby covenant that I have full right to convey the entire interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict therewith.

And I further hereby covenant and agree that I will, at any time, upon request, execute and deliver any and all papers that may be necessary or desirable to perfect the title to said invention or Letters Patent of the

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United States, in said THOMSON ELECTRIC WELDING COMPANY, its successors, assigns or other legal representatives, and that if said THOMSON ELECTRIC WELDING COMPANY, its successors, assigns, or other legal representatives, desire to secure a reissue or extension of such Letters Patent, or that a disclaimer relating thereto should be filed, that I will, upon request, sign all papers, make all rightful oaths, and do all lawful acts requisite for the application for such reissue or extension and the procuring thereof and for the filing of such disclaimer, without further compensation, but at the expense of said assignee, its successors, assigns or other legal representatives.

And I do further covenant and agree that I will, at any time, upon request, communicate to said THOMSON ELECTRIC WELDING COMPANY, its successors, assigns, or other legal representatives, any facts relating to said invention and Letters Patent, or the history thereof, known to me, and while employed by said Thomson Electric Welding Co. testify as to the same in any interference or other litigation when requested to do so.

written before being signed IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my seal at Lynn Mass. this 23rd day of March 1905.

In the presence of:
C. I. Lindsey
Geo. W. N. Chadwell.

Adolph F. Rietzel.

County of Essex)
) SS
State of Mass.)

On this 23rd day of March in the year of our Lord, one thousand nine hundred and five, before me personally appeared Adolph F. Rietzel, to me personally known, and known to me to be the individual described in and who executed the foregoing assignment, and who acknowledged to me that he executed the same for the purpose therein set forth.

William H. Bates,
Notary Public.
Commonwealth of
Massachusetts,
U. S. A.

Wm. H. Bates

Notary Public.

Recorded June 22, 1905.

Defendant's Exhibit No. 38.

2—391

1956

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records of this office of an instrument of writing

Recorded July 19, 1910,

in

Liber S-84, pages 292 and 294.

Said record has been carefully compared with the original and is a correct transcript of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 10th day of May, in the year of our Lord one thousand nine hundred and nineteen and of the Independence of the United States of America the one hundred and forty-third.

J. T. NEWTON,

(Seal)

Commissioner of Patents.

S84—292.

WHEREAS on March 8, 1910 the stockholders of the Thomson Electric Welding Company, a corporation organized under the laws of the State of Maine, voted to sell and transfer all its assets and property, both real and personal, of every nature to the Thomson Electric Welding Company, a corporation organized under the laws of the Commonwealth of Massachusetts, a copy of which vote is hereto annexed; and

WHEREAS all the acts and things required to be done before such transfer have been done;

NOW, THEREFORE, the said Thomson Electric Welding Company of Maine in consideration of the premises and of one dollar and other valuable consideration to it paid by said Thomson Electric Welding Company of Massachusetts, the receipt whereof is hereby acknowledged, does hereby give, grant, bargain, sell, transfer, assign and convey unto the said Thomson Electric Welding Company of Massachusetts, all its property, both real and personal, and all its assets both tangible and intangible of every nature and wherever situated.

TO HAVE AND TO HOLD the same to the said Thomson Electric Welding Company of Massachusetts and its successors and assigns, to their own use and behoof forever.

And the said Thomson Electric Welding Company of Maine, does hereby constitute and appoint said Thomson Electric Welding

Company of Massachusetts its true and lawful attorney in the name and behalf of said Thomson Electric Welding Company of Maine, but to the use of said Thomson Electric Welding Company of Massachusetts to sign, seal, execute, acknowledge and deliver any and all instruments in writing necessary or convenient for the more effectual carrying out of the purposes and terms of this conveyance and transfer. It is understood and agreed, and is a part of the consideration of this conveyance, that said Thomson Electric Welding Company of Massachusetts shall assume and pay all legal debts and obligations of said Thomson Electric Welding Company of Maine now existing, and shall hold said Thomson Electric Welding Company of Maine harmless therefrom.

IN WITNESS WHEREOF the said Thomson Electric Welding Company of Maine has caused its corporate seal to be hereto affixed and this instrument to be executed, acknowledged and delivered in its name and behalf by Benjamin F. Spinney, its President, and William H. Hodges, its Treasurer, hereunto duly authorized, this eleventh day of March A. D. 1910.

THOMSON ELECTRIC

WELDING COMPANY

INCORPORATED 1888

THOMSON ELECTRIC WELDING COMPANY OF MAINE

By BENJAMIN F. SPINNEY, *President.*

W. H. HODGES, *Treasurer.*

COMMONWEALTH OF MASSACHUSETTS.

March 1910.

Essex, ss.

Then personally appeared the above named Benjamin F. Spinney and William H. Hodges, and acknowledged the foregoing instrument to be the free act and deed of the Thomson Electric Welding Company, before me,—

SAMUEL H. HOLLIS.

Justice of the Peace.

Salem, Mar 16 1910 at 10 o'clock and 20 minutes a. m. Received and Entered with Essex Deeds, So. Dist. Libro 2007 Page 291

Attest:

WILLARD J. HALL, *Register.*

Recorded July 19, 1910.

STATE OF MAINE.

Portland, March 8th, 1910.

Cumberland, ss.

THIS IS TO CERTIFY that at a legal meeting of the stockholders of THOMSON ELECTRIC WELDING COMPANY, duly called and held at the office of the Company, to wit, at the

office of Ardon W. Coombs, No. 85 Exchange Street, in said Portland, on this eighth day of March, A. D. 1910, the following vote was unanimously passed, viz :

"On motion, duly seconded, it was unanimously

VOTED: That this Company sell, transfer and convey all its assets to a corporation to be formed under the laws of Massachusetts to be called the THOMSON ELECTRIC WELDING COMPANY, and receive in exchange for said assets all the stock in said corporation, and that the president and treasurer of this corporation be authorized and directed to execute all deeds, conveyances and instruments necessary to carry such sale and transfer into effect.

A true certificate.

Attest :

CHARLES H. COLMAN,
Clerk of Thomas Electric Welding Co.
Recorded July 19, 1910.

Endorsement : Essex Reg. of Deeds,
So. District RECEIVED FOR RECORD
10.20 Mar 16 1910 BOOK 2007
Page 291.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records of this office of an instrument of writing

Recorded April 27, 1910,

in

Liber J-84, page 112.

Said record has been carefully compared with the original and is a correct transcript of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 10th day of May, in the year of our Lord one thousand nine hundred and nineteen and of the Independence of the United States of America the one hundred and forty-third.

(Seal)

J. T. NEWTON,
Commissioner of Patents.

J 84-112

ASSIGNMENT.

WHEREAS, the THOMSON ELECTRIC WELDING COMPANY, a corporation duly organized and existing under the laws of the State of Maine and having an office at Lynn, Massachusetts, did, by virtue of certain assignments duly executed and delivered and recorded in the United States Patent Office, acquire the entire right, title and interest in and to certain inventions set forth in Letters Patent of the United States and in and to the Letters Patent issued upon the same, said Letters Patent being entitled, numbered and dated as follows:

Apparatus for Electric Welding	347,140	Aug.	10, 1886
Apparatus for Electric Welding	347,141	Aug.	10, 1886
Electric Welding	347,142	Aug.	10, 1886
Method of Electric Welding	375,022	Dec.	20, 1887
Apparatus for Electric Welding	375,784	Jan.	3, 1888
Electric Welding	385,022	June	26, 1888
Method of Joining Pipes by Electricity	385,384	July	3, 1888
Method of Electrically Welding			

Chains and Links	385,385	July	3, 1888
Direct Electric Welding Machines.	385,386	July	3, 1888
Apparatus for Electric Welding	386,441	July	17, 1888
Direct Welding Dynamo Electric Machines	389,779	Sept.	18, 1888
Collectors	394,797	Dec.	18, 1888
Portable Electric Welding Ap- paratus	394,892	Dec.	18, 1888
Forming, Brazing & Welding of Met- als by Electricity	396,009	Jan.	8, 1889
Method of Electric Forging	396,010	Jan.	8, 1889
Method of Electric Welding	396,011	Jan.	8, 1889
Apparatus for Electric Welding & Working Metals	396,012	Jan.	8, 1889
Electric Pipe-Joining and Pipe- Work	396,013	Jan.	8, 1889
Electric Metal Working	396,014	Jan.	8, 1889
Method of Electric Riveting	396,015	Jan.	8, 1889
Method of Mfg. Screws & Bolts by Electricity	398,912	March	5, 1889
Electric Welding Machines	398,913	March	5, 1889
Electric Metal Working & Welding Machines	398,914	March	5, 1889
Method of Electric Welding & Shaping of Metals	403,157	May	14, 1889
Electrical Converter	403,541	May	21, 1889
Imp't in Electric Soldering, Brazing and Welding	403,707	May	21, 1889
Method of Electric Welding & Brazing	403,708	May	21, 1889
Compound-Wound Alternating Cur- rent Dynamo	405,263	June	18, 1889
— 1 —			
Electric Welding Clamp	415,305	Nov.	19, 1889
Method of Making Collars on Axles by Electricity	418,198	Dec.	31, 1889
Self-Oiling Box or Journal	421,991	Feb.	25, 1890
Method of Electric Soldering, &c.	423,966	March	25, 1890
Apparatus for Electric Soldering &c.	423,967	March	25, 1890
Burr-Remover	423,979	March	25, 1890
Projectiles	424,441	March	25, 1890
Projectiles	424,442	March	25, 1890
Sliding Clamps for Welding Appa- ratus	428,616	May	27, 1890
Electrical Apparatus for Welding Rings	428,617	May	27, 1890
Transformer for Heavy Currents	428,618	May	27, 1890
Method of Welding Rings	428,619	May	27, 1890

Reactive Coils	428,620	May	27, 1890
Electric Metal Working Apparatus.	432,629	July	22, 1890
Forming & Shaping Metals by Electricity	432,630	July	22, 1890
Method of Working Metals by Electricity	432,651	July	22, 1890
Welding or Other Dynamos	432,652	July	22, 1890
Method of Welding Pipes by Electricity	432,653	July	22, 1890
Mfg. of Bands, Rings, &c. by Electricity	432,656	July	22, 1890
Electric Welding Clamp	434,450	Aug.	19, 1890
Method of Electric Welding	434,468	Aug.	19, 1890
Process of Forming & Welding Metals by Electricity	434,530	Aug.	19, 1890
Induction Discharge Protector	434,531	Aug.	19, 1890
Process of Electric Welding	434,532	Aug.	19, 1890
Process of Electric Welding	438,657	Oct.	21, 1890
Electric Welding of Pipes	438,658	Oct.	21, 1890
Electric Welding Apparatus	440,640	Nov.	18, 1890
Electric Welding Apparatus	440,641	Nov.	18, 1890
Method of Electric Welding	440,664	Nov.	18, 1890
Burr-Remover	440,682	Nov.	18, 1890
Pneumatic Tool	443,029	Dec.	16, 1890
Pneumatic Tool	443,030	Dec.	16, 1890
Electric Welding Apparatus	443,224	Dec.	23, 1890
Method of Electric Welding	444,926	Jan.	20, 1891
Method of Electric Welding	444,927	Jan.	20, 1891
Method of Electric Welding	444,928	Jan.	20, 1891
Alternating Current Dynamo	444,939	Jan.	20, 1891
Welding & Working Metals	444,946	Jan.	20, 1891
Method of Electric Welding	446,974	Feb.	24, 1891
Mfg. of Chains by Electricity	449,356	March	31, 1891
Burr Preventors for Welding Machines	449,357	March	31, 1891
Method of Electric Welding	449,836	April	7, 1891
Method of Electric Welding	451,345	April	28, 1891
Metallic Wheel	452,840	May	26, 1891
Metallic Wheel	452,841	May	26, 1891
Method of Electric Welding	455,420	July	7, 1891
Securing Metal Bands on Wooden or other Articles	455,421	July	7, 1891
Automatic Hammers	455,905	July	14, 1891
Art of Electric Welding	458,176	Aug.	25, 1891
Adjustable Electric Clamp	458,177	Aug.	25, 1891
Method of Electric Bending and Straightening	458,115	Aug.	18, 1891
Electric Clamp	458,188	Aug.	25, 1891
Mode of Making Tools	461,856	Oct.	27, 1891

Automatic Electric Welding Machine	462,261	Nov.	3, 1891
— 2 —			
Laminated Die, Hammer, &c. for Electric Metal Working App.	462,262	Nov.	3, 1891
Method of and Apparatus for Constructing Electric Light or other Lines	462,263	Nov.	3, 1891
Sliding Clamps for Electric Welding Apparatus	465,866	Dec.	29, 1891
Process of Electric Metal-Working.	467,233	Jan.	19, 1892
Electrically Welding Metals	471,242	Mar.	22, 1892
Induction Discharge Protectors for Welding Apparatus	473,514	Apr.	26, 1892
Manufacture of Axes	476,967	June	14, 1892
Compound-Wound Alternating Current Dynamos	479,170	July	19, 1892
Method of Electric Soldering	480,392	Aug.	9, 1892
Method of Electric Welding	487,302	Dec.	6, 1892
Electric Soldering	496,019	Apr.	25, 1893
Automatic Chain Welding Machines.	501,546	July	18, 1893
Shaping & Spinning Metals by Electricity	501,547	July	18, 1893
Electric Furnace	513,602	Jan.	30, 1894
Electric Welding Apparatus	504,496	Sept.	5, 1893
Method of and Apparatus for Regulating Alternating Current Dynamos	504,497	Sept.	5, 1893
Chain Making Machines	512,848	Jan.	16, 1894
Mechanical Hammer	513,516	Jan.	30, 1894
Electric Metal-Working	515,778	Mar.	6, 1894
Process of Electric Metal-Working.	516,312	Mar.	13, 1894
Reactive Coils	519,335	May	8, 1894
Electric Welding Machines	519,336	May	8, 1894
Process of Electric Metal-Working.	523,986	Aug.	7, 1894
Electric Welding Machines	523,987	Aug.	7, 1894
Methods of Producing Locally Annealed Steel Plates	531,197	Dec.	18, 1894
Armatures for Dynamo Electric Machines or Motors	532,795	Jan.	22, 1895
Electric Welding Apparatus	532,838	Jan.	22, 1895
Electric Metal Working Apparatus	534,802	Feb.	26, 1895
Apparatus for Electric Welding	553,923	Feb.	4, 1896
Electric Welding Indicators	555,130	Feb.	25, 1896
Electric Riveting	555,131	Feb.	25, 1896
Electric Hub Welding Machines	556,414	Mar.	17, 1896
Electric Registering Instruments	556,425	Mar.	17, 1896
Electric Metal Working Apparatus	556,426	Mar.	17, 1896
Electric Metal Working Apparatus	564,331	July	21, 1896

Electric Metal Working Apparatus	564,792	July	28, 1896
Chains	568,531	Sept.	29, 1896
Electric Riveting Apparatus	580,475	Apr.	13, 1897
Combination Cast & Flexible Secondary	649,179	May	8, 1900
Hoop Welder	661,588	Nov.	13, 1900
Double Transformer Welder	661,589	Nov.	13, 1900
Electric Welding Apparatus	666,157	Jan.	15, 1901
Transformers for Welding	666,161	Jan.	15, 1901
Transforming Apparatus for Electric Metal Working	666,162	Jan.	15, 1901
Apparatus for the Manufacture of Tubes, Pipes, &c.	686,558	Nov.	12, 1901
Clamp Device for Electric Welding Machines	719,508	Feb.	3, 1903
Clamping Device for Electric Metal Working Apparatus	735,821	Aug.	11, 1903
Electric Welding Clamping Device	766,288	Aug.	2, 1904
Process of Electric Welding	778,269	Dec.	27, 1904
Electric Chain Welding Machine	783,543	Feb.	28, 1905
Transformer	783,651	Feb.	28, 1905
— 3 —			
Electric Welding Machine	785,379	Mar.	21, 1905
Electric Welding Clamping Device	804,045	Nov.	7, 1905
Automatic Electric Metal Working Machine	821,061	May	22, 1906
Method of Making a Joint in Thin Flat Material	870,847	Nov.	12, 1907
Uniting the Component Parts of Composite Sheet Metal Structures	928,701	July	20, 1909
Clamp for Electric Welding Machine	853,579	Mar.	29, 1910;
and			

WHEREAS, the THOMSON ELECTRIC WELDING COMPANY of the State of Maine did, by virtue of certain assignments duly executed and delivered and recorded in the United States Patent Office, also acquire the entire right, title and interest in and to certain inventions set forth in certain applications for Letters Patent of the United States, and in and to the Letters Patent to be issued on the same, for the whole world, said applications being entitled, numbered and dated as follows:

Automatic Electric Welding Machine, Serial No. 284,317,

Filed Oct. 25, 1905, A. F. Rietzel, inventor,

Method of Forming a Joint in Metal, Serial No. 337,137,

Filed Oct. 2, 1905, A. F. Rietzel, inventor,

Method of Joining Metal, Serial No. 337,136

Machine for Electrically Welding Attachments to Sheet Metal Utensils, Serial No. 342,456,

Filed Nov. 8, 1906, A. F. Rietzel, inventor,

Defendant's Exhibit No. 39.

Construction of Sheet Metal Utensils, Serial No. 349,547,
Filed Dec. 26, 1906, A. F. Rietzel, inventor,
Electric Chain Welding Machine Serial No. 373,081,
Filed May 11, 1907, A. F. Rietzel and George
E. Barstow, inventors,
Composite Sheet Metal Work, Serial No. 426,959,
Filed Apr. 14, 1908, A. F. Rietzel, inventor,
Method of Electrically Welding Chain Links, S. N. 437,594,
Filed June 9, 1908, W. H. Hodges, inventor,
Contact for Electric Welding Machines, S. No. 450,140,
Filed Aug. 25, 1908, A. F. Rietzel, inventor,
Electric Metal Working Apparatus, Serial No. 463,536,
Filed Nov. 20, 1908, A. F. Rietzel and George
E. Barstow, inventors,

— 4 —

Electric Metal Working Apparatus Serial No. 469,189,
Filed Dec. 26, 1908, A. F. Rietzel and George
E. Barstow, inventors,
Electric Metal Working Apparatus, Serial No. 495,601,
Filed May 13, 1909, A. F. Rietzel, inventor,
Method of Electric Welding, Serial No. 506,881,
Filed July 10, 1909, Elihu Thomson, inventor,
Electric Metal Working Apparatus, Serial No. 506,963,
Filed July 10, 1909, A. F. Rietzel, inventor,
Transformer Secondary, Serial No. 511,279,
Filed Aug. 5, 1909, Elihu Thomson, inventor,
Electric Welding of Sheet Metal, Serial No. 523,765,
Filed Oct. 21, 1909, Elihu Thomson, inventor,
Electric Welding of Sheet Metal, Serial No. 523,766,
Filed Oct. 21, 1909, Elihu Thomson, inventor;

and

WHEREAS, the THOMSON ELECTRIC WELDING COMPANY, a corporation duly organized and existing under the laws of the State of Massachusetts and having an office at Lynn, in the said State, is desirous of acquiring the entire right, title and interest in and to the said inventions, Letters Patent, applications for patent and Letters Patent to be issued on the same in and for the United States and all other countries:

NOW, THEREFORE, To All Whom It May Concern:

Be it known that for and in consideration of the sum of One (1) Dollar to the THOMSON ELECTRIC WELDING COMPANY of Maine in hand paid by the THOMSON ELECTRIC WELDING COMPANY of Massachusetts and other good and valuable consideration, the receipt of which is hereby acknowledged, the said THOMSON ELECTRIC WELDING COMPANY of Maine has sold, assigned, transferred and set over and by these presents does sell, assign, transfer and set over unto the said THOMSON ELECTRIC WELDING COMPANY, of Massachusetts, its successors and assigns, the entire right, title and interest in and to the said in-

ventions, Letters Patent, applications for patent and Letters Patent to be issued for the same in

— 5 —

and for the United States and all other countries, together with the right, to be exercised in its own name and for its own use, to sue and recover for past infringement of said Letters Patent, the said inventions and Letters Patent issued and to be issued for the same, together with any reissue or reissues or extension or extensions of said Letters Patent, to be held and enjoyed by the said THOMSON ELECTRIC WELDING COMPANY of Massachusetts, its successors assigns, or other legal representatives, for its own use and behoof and for the use of its successors, assigns, or other legal representatives, to the end of the term or terms for which said Letters Patent are or may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by the said THOMSON ELECTRIC WELDING COMPANY of Maine, had this assignment and sale not been made.

And the said THOMSON ELECTRIC WELDING COMPANY of Maine hereby authorizes and requests the Commissioner of Patents to issue the Letters Patent for the inventions set forth in the above applications to the THOMSON ELECTRIC WELDING COMPANY of Massachusetts, as the sole owner thereof.

IN WITNESS WHEREOF the said THOMSON ELECTRIC WELDING COMPANY of Maine has caused its corporate seal to be hereto affixed and this instrument to be executed, acknowledged and delivered in its name and behalf this 18th day of April, 1910, by Benjamin F. Spinney, its President, and William H. Hodges, its Treasurer, hereunto duly authorized by the unanimous vote of the stockholders of said COMPANY, a copy of which vote is hereto annexed.

THOMSON ELECTRIC
WELDING COMPANY
INCORPORATED 1888

THOMSON ELECTRIC WELDING COMPANY OF MAINE

By Benjamin F. Spinney, President.

William H. Hodges, Treasurer.

— 6 —

COMMONWEALTH OF MASSACHUSETTS.

Essex, ss.

April 18, 1910.

Then personally appeared the above named Benjamin F. Spinney and William H. Hodges, and acknowledged the foregoing instrument to be the free act and deed of the THOMSON ELECTRIC WELDING COMPANY of Maine, before me.

WILLIAM H. BATES,

Wm. H. Bates

NOTARY PUBLIC.

COMMONWEALTH OF
MASSACHUSETTS

Notary Public.

U. S. A.

—7—

State of Maine.

Cumberland, ss.

Portland, March 8th, 1910.

THIS IS TO CERTIFY that at a legal meeting of the stockholders of THOMSON ELECTRIC WELDING COMPANY, duly called and held at the office of the Company, to wit, at the office of Ardon W. Coombs, No. 85 Exchange Street, in said Portland, on this eighth day of March, A. D. 1910, the following vote was unanimously passed, vis:

On motion, duly seconded, it was unanimously

VOTED: That this Company sell, transfer and convey all its assets to a corporation to be formed under the laws of Massachusetts to be called the THOMSON ELECTRIC WELDING COMPANY, and receive in exchange for said assets all the stock in said corporation, and that the president and treasurer of this corporation be authorized and directed to execute all deeds, conveyances and instruments necessary to carry such sale and transfer into effect."

A true certificate.

Attest:

Charles H. Tolman

Clerk of

Thomson Electric Welding Company.

County of CUMBERLAND)

ss:

State of MAINE.)

On this 18th day of April, 1910, before me personally appeared Charles H. Tolman, to me personally known and known to me to be the individual described in and who executed the foregoing, and who acknowledged to me that he executed the same for the purpose therein set forth.

ARDON W. COOMBS,

Ardon W. Coombs,

NOTARY PUBLIC

Notary Public.

PORTLAND, MAINE.

Recorded April 27, 1910.

Defendant's Exhibit No. 40

1967

2-391

20 39

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records
of this office of an instrument of writing

Recorded February 19, 1917,

in

Liber N-102, page 36.

A record has been carefully compared with the original and is a correct
transcript of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 22nd day
of April in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-third.


Acting Commissioner of Patents.

1968

Q 102-36

A S S I G N M E N T

WHEREAS the THOMSON ELECTRIC WELDING COMPANY, a corporation duly organized and existing under the laws of the Commonwealth of Massachusetts, and, having an office in the City of Lynn, Massachusetts, did, by virtue of certain assignments duly executed and delivered and recorded in the United States Patent Office, acquire the entire right, title and interest in and to certain inventions set forth in Letters Patent of the United States and in and to the Letters Patent issued upon the same, said Letters Patent being entitled, numbered and dated as follows:

1969

Uniting the Component Parts of Composite Sheet Metal Structures, No. 928,701, July 20, 1909;

Electric Welding of Sheet Metal No. 973,586, Oct. 25, 1910;

Sheave Welder, No. 985,838, Mar. 7, 1911;

Composite Sheet Metal, No. 1,020,056, Mar. 12, 1912;

Method of Joining Metal, No. 1,040,418, Oct. 8, 1912;

Electric Welding, No. 1,046,066, Dec. 3, 1912;

Electric Metal Working Apparatus, No. 1,074,383, Sept. 30, 1913;

Electrical Welding of Sheet Metal, No. 1,078,225, Nov. 11, 1913;

Electric Seam Welding, No. 1,083,956, Jan. 13, 1914;

Spot Welding Machine, No. 1,084,673, Jan. 20, 1914;

Spot Welding Thin Sheets, No. 1,085,769, Feb. 3, 1914;

Spot Welding, No. 1,097,895, May 26, 1914;

-1-

Spot Welding Machine, No. 1,122,665, Dec. 29, 1914;

Method of Electric Seam Welding, No. 1,123,624, Jan. 5, 1915;

Electric Welding, No. 1,143,220, June 15, 1915;

Electric Metal Working Apparatus No. 1,174,446; Mar. 7, 1916; and

WHEREAS the said THOMSON ELECTRIC WELDING COMPANY, did by virtue of a certain assignment, duly executed and delivered and recorded in the United States Patent Office, also acquire the entire right, title and interest in and to the invention relating to Combination Spot and Butt Welder set forth in a certain application for Letters Patent of the United States filed in the United States Patent Office on the 4th day of August, 1916, Serial Number 113,055; and

WHEREAS the THOMSON SPOT WELDER COMPANY, (formerly Electric Welder Company) a corporation duly organized and existing under the laws of the Commonwealth of Massachusetts and having an office in the City of Boston, State of Massachusetts is desirous of acquiring the entire right, title and interest in and to the said inventions, Letters Patent, application for patent and the Letters Patent to be issued on the same in and for the United States;

NOW THEREFORE, To All Whom It May Concern:

Be it known that for and in consideration of the sum of One Dollar (\$1.00) to the THOMSON ELECTRIC WELDING COMPANY is here paid by the THOMSON SPOT WELDER COMPANY and other good and valuable consideration, receipt of which is hereby

1970

acknowledged, the said THOMSON ELECTRIC WELDING COMPANY has sold, assigned transferred and set over and by these presents does sell, assign

-2-

transfer and set over unto the said THOMSON SPOT WELDER COMPANY, its successors and assigns, the entire right, title and interest in and to the said inventions, Letters Patent, application for patent and Letters Patent to be issued for the same in and for the United States, together with any and all rights of action, claims and demands whatsoever of the said THOMSON ELECTRIC WELDING COMPANY either at law or in equity, for damages or profits or both, arising from past infringement of said Letters Patent, with the full right and power in its own name to sue for and collect the same for its own use and benefit, and said inventions and Letters Patent issued and to be issued for the same, together with any reissue or reissues or extension or extensions of said Letters Patent, to be held and enjoyed by the said THOMSON SPOT WELDER COMPANY, its successors, assigns or other legal representatives, for its own use and benefit and for the use of its successors, assigns or other legal representatives, to the end of the term or terms for which said Letters Patent are or may be granted, reissued or extended as fully and entirely as the same would have been held and enjoyed by the THOMSON ELECTRIC WELDING COMPANY had this assignment and sale not been made.

And the said THOMSON ELECTRIC WELDING COMPANY, hereby authorizes and requests the Commissioner of Patents to issue the Letters Patent for the invention set forth in the above application to the THOMSON SPOT WELDER COMPANY as the sole owner thereof.

IN WITNESS WHEREOF the said THOMSON ELECTRIC WELDING COMPANY has set its hand and seal this 14th day of February, 1917

THOMSON ELECTRIC
WELDING COMPANY
INCORPORATED 1910
MASSACHUSETTS.

Thomson Electric Welding Company
By J W Farley
President.

-3-

COMMONWEALTH OF MASSACHUSETTS
SUFFOLK, ss.

Boston, Mass., February 14, 1917.

Then personally appeared J.W. Farley, the President of the above-named THOMSON ELECTRIC WELDING COMPANY and acknowledged the foregoing instrument to be the free act and deed of said Company.

DANIEL J LYNE
NOTARY PUBLIC
MASSACHUSETTS

Daniel J Lyne
Notary Public.

Recorded February 19, 1917.

Defendant's Exhibit No. 41

1971
No 40

2-391

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records
of this office of an instrument of writing

Recorded July 3, 1917.

in

Liber A-103, page 23.

Said record has been carefully compared with the original and is a correct
transcript of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 24th day
of March in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-third.

Freely
Acting Commissioner of Patents.

1972

A 103-23

ASSIGNMENT.

UNITED STATES,

WHEREAS I, SEBASTIAN ZIANI de PERRANTI, formerly of Grindleford Bridge, Sheffield in the County of Derby, England, but now of Hollinwood, Lancaster, England, have invented certain new and useful ELECTRIC WELDING for which I have made application for Letters Patent of the United States under Serial Number 668464 which application was filed on the 29th day of December 1911 AND WHEREAS FRANK L. MIDDLETON, of Victor Building, 9th & Grant Place, Washington, D. C., United States of America, is desirous of acquiring an interest in said Invention and in the Letters Patent to be obtained therefor:

NOW THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN THAT, for and in consideration of the sum of ONE DOLLAR to me in hand paid, the receipt of which is hereby acknowledged, I the said SEBASTIAN ZIANI de PERRANTI have sold, assigned and transferred, and by these presents do sell assign and transfer unto the said FRANK L. MIDDLETON, the full and exclusive right to the said invention as fully set forth and described in the specification prepared and executed by me preparatory to obtaining Letters Patent of the United States therefor; and I do hereby authorize and request the Commissioner of Patents to issue the said Letters Patent to the said FRANK L. MIDDLETON as the Assignee of my entire right title and interest in and to the same for the sole use and behoof of the said FRANK L. MIDDLETON and his legal representatives.

IN TESTIMONY WHEREOF I have hereunto affixed my hand and seal this 8th day of June, 1917.

IN PRESENCE OF:

Sebastian Ziani de Perranti SEAL

Ernest Simpson Moseley
Maud Shatwell;

(over)

1973

Certificate of Acknowledgment of Execution of Document.

United Kingdom of Great Britain and Ireland,

Lancaster,

38:

City of Manchester,

I, Ross E. Holaday, Consul, of the United States of America at Manchester, England, duly commissioned and qualified, do hereby certify that on this 8th day of June, 1917, before me personally appeared Sebastian Ziani de Ferranti, to me personally known, and known to me to be the individual described in, whose name is subscribed to, and who executed the annexed instrument, and being informed by me of the contents of said instrument he duly acknowledged to me that he executed the same freely and voluntarily for the uses and purposes therein mentioned.

CONSULATE
OF THE
UNITED STATES
E PLURIBUS
UNUM
MANCHESTER,
ENGLAND

In witness whereof I have hereunto set my hand and official seal the day and year last above written.

AMERICAN
CONSULAR
SERVICE

R. E. Holaday

Fee No. 33, Two Dollars.

Consul of the United States of America.
Recorded July 3, 1917.

EE STAMP

474

1974

Defendant's Exhibit No. 42

No 41

2-391

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records
of this office of an instrument of writing

Recorded July 3, 1917.

in

Liber A-103, page 24.

Said record has been carefully compared with the original and is a correct
transcript of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 24th day
of March, in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-third.

M. H. C.
Acting Commissioner of Patents

1975

- A S S I G N M E N T -

WHEREAS, SEBASTIAN Z. de FERRANTI, of Grindelford Bridge, Sheffield, England, is the inventor of certain new and useful Improvements in Electric Welding, which invention is set forth and described in an application for Letters Patent of the United States, filed by said de Ferranti in the United States Patent Office on the 29th day of December, 1911, and known and designated as application Serial No. 668,464; and

WHEREAS, I, FRANK L. MIDDLETON, of Washington, D. C., am the owner by assignment of the said invention and application, and of all rights in, to and under the same; and

WHEREAS, MELVILLE CHURCH, of Washington, D. C., is desirous of acquiring the ownership of said invention and application, and of all rights in, to and under the same;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to me in hand paid by the said Melville Church, and of other good and valuable considerations from the said Church to me moving, the receipt of which is hereby acknowledged, I, Frank L. Middleton, do hereby sell, assign and transfer unto the said Melville Church, his heirs and assigns, the said invention, together with

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said application and any patent or patents that may be issued on the same, the same to be held and enjoyed by the said Melville Church, his heirs and assigns, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

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AND I hereby authorize and request the Commissioner of Patents to issue any Letters Patent that may be granted for said invention to the said Melville Church, his heirs and assigns, in accordance with this assignment.

AND I hereby covenant and agree with the said Melville Church, his heirs and assigns, that I am the owner of the entire right, title and interest in and to the said invention and application, and that I have a good right to sell and convey the same; and I agree to execute any further assurances of title that may be necessary to convey said invention and application to the said Melville Church, his heirs and assigns.

Signed at Washington, D. C., this 2nd day of July, 1917.

Frank L. Middleton

DISTRICT OF COLUMBIA : ss.

On this 2nd day of July, 1917, personally appeared before me, a notary public in and for the District of Columbia, FRANK L. MIDDLETON, to me known and known to me to be the party who executed the foregoing assignment and who acknowledged that he executed the same.

THOMAS
DURANT.
NOTARY
PUBLIC
DISTRICT
OF
COLUMBIA.

Thomas Durant

Notary Public.

Recorded July 3, 1917.

2

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records
of this office of an instrument of writing

Recorded August 8, 1917,

in

Liber D-103, page 157.

Said record has been carefully compared with the original and is a correct
script of the whole thereof.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 24th day
of March in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-third.

M. C. C.

Acting Commissioner of Patents.

1978

- A S S I G N M E N T -

WHEREAS, SEBASTIAN Z. de FERRANTI, of Grindleford Bridge, Sheffield, England, is the inventor of certain new and useful improvements in Electric Welding, which invention is set forth and described in an application for Letters Patent of the United States, filed by said de Ferranti in the United States Patent Office on the 20th day of December, 1911, and known and designated as application Serial No. 668,464; and

WHEREAS, I, MELVILLE CHURCH, of WASHINGTON, D.C., am the owner by assignment of the said invention and application, and of all rights in, to and under the same; and

WHEREAS HENRY C. MILLIGAN, TRUSTEE, of Canton, Ohio, is desirous of acquiring the ownership of said invention and application, and of all rights in, to and under the same;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to me in hand paid by the said Henry C. Milligan, Trustee, and of other good and valuable

1979

considerations from the said Henry C. Milligan, Trustee, to me moving, the receipt of which is hereby acknowledged, I, Melville Church, do hereby sell, assign and transfer unto the said Henry C. Milligan, Trustee, his heirs and assigns, the said invention, together with said application and any patent or patents that may be issued on the same, the same to be held and enjoyed by the said Henry C. Milligan, Trustee, his heirs and assigns, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

AND I hereby authorize and request the Commissioner of Patents to issue any Letters Patent that may be granted for said invention to the said HENRY C. MILLIGAN, TRUSTEE, his heirs and assigns, in accordance with this assignment.

AND I hereby covenant and agree with the said Henry C. Milligan, Trustee, his heirs and assigns, that I am the owner of the entire right, title and interest in and to the said invention and application, and that I have a good right to sell and convey the same; and I agree to execute any further assurances of title that may be necessary to convey said invention and application to the said Henry C. Milligan, Trustee, his heirs and assigns.

Signed at Washington, D. C., this 26th day of July, 1917.

Melville Church

DISTRICT OF COLUMBIA: ss.

On this 26th day of July, 1917, personally appeared before me, a notary public in and for the District of Columbia, MELVILLE CHURCH, to me known and known to me to be the party who executed the foregoing assignment and who acknowledged that he executed the same.

THOMAS DURANT,

NOTARY PUBLIC

Thomas Durant
Notary Public

DISTRICT OF
COLUMBIA.

Recorded August 8, 1917.



Defendant's Exhibit No. 44.

WHEREAS, SEBASTIAN Z. de FERRANTI, of Grindleford Bridge, Sheffield, England, is the inventor of certain new and useful improvements in ELECTRIC WELDING, which invention is set forth and described in an application for Letters Patent of the United States, filed by said de FERRANTI in the United States Patent Office on the 29th day of December, 1911, Serial No. 668,464, said application being a division of an application for Letters Patent of the United States filed by said de FERRANTI in the United States Patent Office May 14th, 1904, Serial No. 208,034; and

WHEREAS, said de FERRANTI'S application Serial No. 668,464 is at present involved in Interference No. 36,709 in the United States Patent Office with Letters Patent of the United States for Electric Welding, No. 1,046,066, issued to Johann Harmatta December 3, 1912, and said de FERRANTI is entitled to priority of invention of the subject-matter of his said application under the provisions of the International Convention for the Protection of Industrial Property and of the Statutes of the United States as of May 25th, 1903, on which day he filed application for Letters Patent of Great Britain No. 11,921 of 1903 setting forth said invention; and

WHEREAS, HENRY C. MILLIGAN, TRUSTEE, of Canton, Ohio, is the owner by mesne assignments of said de FERRANTI application Serial No. 668,464, and of the invention therein set forth, and of the Letters Patent of the United States to issue thereon, and of all other rights in, to and under the same; and

WHEREAS, FORD MOTOR COMPANY, a corporation organized and existing under the laws of the State of Michigan, is desirous of acquiring a license under and interest in said de FERRANTI invention and application, and in, to and under any Letters Patent of the United States which may be granted therefor;

NOW, THEREFORE, in consideration of one dollar to said HENRY C. MILLIGAN, TRUSTEE, in hand paid by said FORD MOTOR COMPANY, and of other good and valuable considerations from said COMPANY to said MILLIGAN, TRUSTEE, moving, the receipt of which is hereby acknowledged, said HENRY C. MILLIGAN, TRUSTEE, hereby gives and grants unto said FORD MOTOR COMPANY the right and license to use said invention, excepting for the manufacture of spinning machinery and turbines, under said application Serial No. 668,464, and under any Letters Patent of the United States which may be granted thereon, such right and license to relate back to, and to be deemed to be in full force and effect since May 25, 1903, the date of priority of invention to which said de FERRANTI is entitled, and to continue in force to the expiration of any Letters Patent of the United States which may be granted on said de FERRANTI application Serial No. 668,464, meaning and intending hereby to confer upon

said FORD MOTOR COMPANY a right and license under said invention, application and Letters Patent to issue thereon, and right of priority thereunder coextensive in time with that enjoyed by said de FERRANTI and those deriving title or interest from and under him.

SIGNED, sealed and delivered at Canton, Ohio, this 30th day of November, 1917.

HENRY C. MILLIGAN,
Trustee.

DISTRICT COURT OF THE UNITED STATES.

DISTRICT OF MASSACHUSETTS.

IN EQUITY.

THOMSON ELECTRIC WELDING COMPANY AND UNIVERSAL ELECTRIC WELDING COMPANY

VS.

BARNEY & BERRY, INC.

INTERLOCUTORY DECREE.

July 17, 1916.

DODGE, J. This cause came on to be further heard upon the pleadings and proofs and upon the Mandate of the Circuit Court of Appeals for the First Circuit, and counsel for the respective parties having been heard, now, upon consideration thereof it is hereby ordered, adjudged and decreed that the Letters Patent of the United States referred to in the complainant's bill granted to the Thomson Electric Welding Company, as assignee of Johann Harmatta, No. 1,046,066, dated December 3, 1912, are good and valid; that said Johann Harmatta was the original and first inventor of the improvements described in said Letters Patent; that the complainant, the Thomson Electric Welding Company, is the true and lawful owner of said Letters Patent; that the complainant, the Universal Electric Welding Company, is a licensee under said Letters Patent; and that the defendant, Barney & Berry, Inc., has infringed claims 3, 4, 5, 6, 8, 9, 11, 12 17, 18 19 and 21 of said Letters Patent and upon the exclusive rights of the complainants under the same.

It is further ordered adjudged and decreed, that the complainants recover of the defendant the gains and profits which said defendant has derived, received or made by reason of its infringement of said claims of said Letters Patent, and that said complainants also recover any and all damages which they have sustained by reason of said infringement of said claims by the defendant; and this cause is hereby referred to as a master of this court, to take and state an account of such gains and profits, and to assess such damages and to report thereon with all convenient speed. And the officers and employees of the defendant are hereby directed and required to attend before said master from time to time as required, and to produce before him such books, papers and documents as relate to the matters at issue, and to submit to such oral examination as the master may require.

It is further ordered, adjudged and decreed, that a perpetual in-

junction be issued out of and under the seal of this court against the said defendant, Barney & Berry, Inc., strictly enjoining and restraining it, its clerks, attorneys, agents, servants and workmen from directly or indirectly infringing said Letters Patent, and from practising the process of electric welding containing or embodying the invention described and patented in said Letters Patent and referred to in the claims thereof numbered 3, 4, 5, 6, 8, 9, 11 and 12, and from directly or indirectly making, constructing, using or selling metal articles containing or embodying the invention described and patented in said Letters Patent, and referred to in the claims thereof numbered 17, 18, 19 and 21.

It is further ordered, adjudged and decreed, that the complainants recover of the defendant their costs of suit to be taxed.

By the Court.

JOHN E. GILMAN, JR.,
Deputy Clerk.

F.D.

ENDORSED.

701 Eq.

DISTRICT COURT OF THE UNITED STATES.

DISTRICT OF MASSACHUSETTS.

IN EQUITY.

THOMSON ELECTRIC WELDING COMPANY AND UNIVERSAL ELECTRIC WELDING COMPANY

vs.

BARNEY & BERRY, INC.

INTERLOCUTORY DECREE.

July 17, 1916.

701 Eq.

INTERLOCUTORY DECREE.

U. S. DISTRICT COURT,

MASS. DIST.

FILED IN CLERK'S OFFICE

Jul 17 1916

From the office of

Fish, Richardson, Herrick & Neave,

84 State Street,

Boston, Mass.

DISTRICT COURT OF THE UNITED STATES.

DISTRICT OF MASSACHUSETTS.

I, JAMES S. ALLEN, Clerk of said Court, hereby certify that the foregoing is a true copy of the Interlocutory Decree entered July 17, 1916, in the case entitled:

No. 701 Equity,

THOMSON ELECTRIC WELDING COMPANY ET AL.,

vs.

BARNEY & BERRY, INC.

now pending in said District Court.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed the seal of said Court at Boston, in (Seal) said District, this eleventh day of March, A. D., 1919.

JAMES S. ALLEN,
Clerk.

CIRCUIT COURT OF THE UNITED STATES, FOR THE
SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, PLAINTIFFS,

vs.

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

IN EQUITY.

JOHN A SHIELDS,

Clerk Circuit Court U. S. Southern District of N. Y.

You will please issue a Subpoena to the defendant in the above-
entitled action, returnable on the first Monday of January, 1911.

HENRY C. TOWNSEND,
Solicitor for Complainant.

New York, Nov. 17, 1910.

(Endorsed) U. S. Circuit Court, Southern District New York,
Filed Nov. 17, 1910, John A. Shields, Clerk.

THE PRESIDENT OF THE UNITED STATES OF
AMERICA

To

NATIONAL ENAMELING & STAMPING COMPANY,
GREETING:

YOU ARE HEREBY COMMANDED that you personally appear before the Judges of the Circuit Court of the United States of America, for the Southern District of New York, in the Second Circuit, in Equity, on the first Monday of January, A. D. 1911 wherever the said Court shall then be, to answer a bill of complaint exhibited against you in the said Court by THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC WELDING COMPANY, and do further and receive what the said Court shall have considered in that behalf. And this you are not to omit under the penalty on you of Two Hundred and Fifty Dollars.

WITNESS, The Honorable JOHN M. HARLAN, Associate Justice of the Supreme Court of the United States, at the Borough of Manhattan, in the City of New York, on the 17th day of November, in the year of our Lord one thousand nine hundred and ten, and of the Independence of the United States of America, the one hundred and thirty-fifth.

JOHN A. SHIELDS, *Clerk.*

HENRY C. TOWNSEND,
Solicitor for Complainant,
149 Broadway.

The Defendant is required to enter appearance in the above cause, in the Clerk's Office of this Court, on or before the first Monday of January, 1911, or the bill will be taken *pro confesso* against it.
J. A. S., Clerk.

I HEREBY CERTIFY, That on the 17th day of November, 1910, at the City of New York, in my district, I served the within Subpoena in Equity upon the within-named Defendant National Enameling and Stamping Company by exhibiting to Adolph M. Steinhardt as Treasurer of said Company at No. 81 Fulton Street, N. Y. City, the within original, and at the same time leaving with him a copy thereof.

WM. HENKEL,

United States Marshal, Southern District of New York.

Dated Nov. 18th, 1910.

U. S. Circuit Court, Southern District N. Y., Filed Nov. 18, 1910, John A. Shields, Clerk.

IN THE CIRCUIT COURT OF THE UNITED STATES,
FOR THE SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, PLAINTIFFS,

v.s.

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

IN EQUITY.

BILL OF COMPLAINT.

TO THE HONORABLE JUDGES OF THE CIRCUIT COURT
OF THE UNITED STATES FOR THE SOUTHERN
DISTRICT OF NEW YORK:

1. The Thomson Electric Welding Company, a corporation duly organized and existing under the laws of the State of Massachusetts and having a principal place of business at Lynn, in the State of Massachusetts, and the Universal Electric Welding Company, a corporation duly organized and existing under the laws of the State of New York and having a principal place of business in the Borough of Queens, in the City of New York, State of New York, bring this, their bill of complaint, against the National Enameling & Stamping Company, a corporation organized and existing under the laws of the State of New Jersey, having a regular and established place of business, and having committed acts of infringe-

ment as hereinafter complained of, within the Southern District of New York, and thereupon your orators complain and say:

2. That, as your orators are informed and believe and accordingly aver, Adolph F. Rietzel, being a citizen of the United States and a resident of Lynn, in the County of Essex, and State of Massachusetts, was prior to the twenty-fourth day of February, nineteen hundred and five, the original and first inventor of certain new and useful improvements in Uniting the Component parts of Sheet Metal Structures, since commonly known in the art as Electric Spot or Point Welding, not known or used by others in this country before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof or more than two years prior to his hereinafter recited application for patent therefor, and not in public use or on sale in this country for more than two years before his said application for Letters Patent, and not patented or caused to be patented by him or his legal representatives or assigns in any foreign country upon any application for foreign patent filed more than one year prior to the filing of his hereinafter recited application for patent for said invention, and not abandoned prior to said application; and that, being said original and first inventor the said Adolph F. Rietzel on or before the twenty-fourth day of February, 1905, made application in due form of law to the Commissioner of Patents of the United States for Letters Patent for his said invention and duly swore to the specification thereof, and by valid assignment assigned to the Thomson Electric Welding Company a corporation duly organized under the laws of the State of Maine, his said application and invention therein set forth and any Letters Patent that might be granted for said invention, and requested the Commissioner of Patents to issue to said Thomson Electric Welding Company of Maine as his assignee any Letters Patent which might be granted on his said application; whereupon such proceedings were had that on the twentieth day of July, 1909, Letters Patent of the United States No. 929,701 were granted to the said Thomson Electric Welding Company of Maine in conformity with the requirements of the statutes in such case made and provided, which said Letters Patent in their terms granted to said Thomson Electric Welding Company of Maine, its successors and assigns, for the term of seventeen years from said last mentioned day, the exclusive right to make, use and vend the invention therein described and claimed, referring to the specifications for the particulars thereof, and your orators bring here into Court a duly authenticated copy of said Letters Patent and pray that the same may be taken as a part of this bill.

3. And your orators further show that the Thomson Electric Welding Company of Maine to whose rights your orator, the Thomson Electric Welding Company of Massachusetts succeeded, as hereinafter set forth, entered into certain agreements with your orator, the Universal Electric Welding Company, dated respectively

the 26th day of February, 1909, and the 20th day of July, 1909, which agreements ever since the issuance of said patent and up to the beginning of this action have been continuously in full force and effect, whereby your orator, the Universal Electric Welding Company, acquired the exclusive right to use the invention covered by the aforesaid Letters Patent in connection with machines built by said Thomson Electric Welding Company of Maine or with its permission, and leased to your orator, the Universal Electric Welding Company, upon a continuing fixed annual rental or royalty, to be paid to the said Thomson Electric Welding Company of Maine, its successors and assigns, together with the right to sublease and let said machines, subject to the conditions and covenants of said agreements, as in and by said agreements here in Court to be produced will more fully appear.

4. And your orators further show that by valid mesne assignments duly recorded in the office of the Commissioner of Patents of the United States, all the right, title and interest of said Thomson Electric Welding Company of Maine in and to said Letters Patent and in and to the invention secured thereby, including the right to sue for and recover all damages and profits that might be due to the Thomson Electric Welding Company of Maine for the infringement of the said Letters Patent prior to the aforesaid assignments, subject to the rights of your orator the Universal Electric Welding Company, as hereinbefore set forth, became vested in your orator the Thomson Electric Welding Company of Massachusetts, and your orator then became and ever since have been and now are the owners of said Letters Patent and as such entitled to and possessed of the full and exclusive right and liberty of making, constructing, using and vending to others to be used, the aforesaid invention within and throughout the United States and the Territories thereof, and entitled to collect and hold to their own use all damages and profits that are recoverable for past infringement of said Letters Patent since the date thereof, as in and by said assignments, or duly certified copies thereof here in Court to be produced will more fully appear.

5. Your orators further show that the art of electric spot or point welding covered by the claims of the aforesaid Letters Patent is of great value and importance in the art of manufacturing metal articles and particularly articles of sheet metal and that your orators have expended large sums of money in exploiting said invention and bringing the same to the notice of various manufacturing concerns and have been paid large sums of money for the right to use the invention of spot or point welding set forth in and covered by the claims of the aforesaid Letters Patent and continue to receive and expect to receive further large sums of money for said rights and that the wrongful acts of the defendant herein complained of will have the effect of encouraging others to violate your orators' exclusive rights and to refuse to pay the further sums of money due your orators for the grant of the rights to use said patented invention.

6. And your orators further show that the defendant was duly notified of the rights of your orators and of the Thomson Electric Welding Company of Maine in the premises but that after such notice, as your orators are informed and believe and accordingly aver, the defendant although well knowing the premises and exclusive rights of your orators and of the Thomson Electric Welding Company of Maine as aforesaid, in violation of said rights, and with the intent of depriving your orators and the Thomson Electric Welding Company of Maine of the benefit and advantages which would otherwise accrue to your orators from the possession of the exclusive rights conferred by the above mentioned Letters Patent, and without the license and consent of your orators or of the Thomson Electric Welding Company of Maine and against their will, and in infringement of said Letters Patent have been since the 20th day of July, 1909, within the Southern District of New York and at its factory in New York in said District, and elsewhere in the United States, using the art or method of electric point or spot welding set forth and claimed in the aforesaid Letters Patent and have made and sold metal plates, articles and metal work as set forth and claimed in said Letters Patent and that the defendant threatens to continue to so violate the exclusive rights conferred by the said Letters Patent and to install additional machines for practicing the said art or method and for manufacturing the metal work and articles set forth and claimed in said Letters Patent.

7. To the end therefore, that the defendant may, if it can, show why your orators should not have the relief herein prayed, and may, according to the best of its knowledge, information, remembrance and belief, full, true, and perfect answer make (but not under oath, an answer under oath being hereby expressly waived) to all and singular the matters herein stated and charged, as fully and particularly as if the same were here repeated and the defendant especially interrogated as to each and every of such matters; and that by a decree of this Court the defendant may be compelled to account for and pay over to your orators all damages which your orators and the Thomson Electric Welding Company of Maine have sustained, or shall sustain, on account of the defendant's infringement of said Letters Patent, together with all gains and profits resulting to the defendant from said infringement, and that the defendant, its officers, clerks, attorneys, agents, servants, and workmen, may be restrained, permanently and during the pendency of this suit, by an injunction, from using or practicing the method of uniting the component parts of composite sheet-metal structures as described and claimed in said Letters Patent and from using or causing to be used, machines or apparatus operating according to said method and from making, using and selling any metal plates or articles as described and claimed in said Letters Patent; and that it may be decreed to pay the costs of this suit and that your orators may have such other and further relief as the nature of this case may require, and to this Court may seem meet; may it please your

Honors to grant unto your orators not only a writ or writs of injunction conformable to the prayer of this bill but also a writ of subpoena ad respondendum, issuing out of and under the seal of this Honorable Court, directed to the said National Enameling and Stamping Company, commanding it to appear and make answer to this bill of complaint, and to perform and abide by such order and decree herein as to this Court may seem required by the principles of equity and good conscience.

And your Orators as in duty bound will ever pray.

(Seal)

THOMSON ELECTRIC WELDING COMPANY,
By WILLIAM H. HODGES, *Secretary*.
UNIVERSAL ELECTRIC WELDING CO.,
By REGINALD HAWLEY, *Secretary*.

FISH, RICHARDSON, HERRICK & NEAVE,
HENRY C. TOWNSEND,

Solicitors and of Counsel for the Complainants.

State of Massachusetts, County of Suffolk, ss:

On this 16th day of November, 1910, before me personally appeared WILLIAM H. HODGES, and made oath that he is the Secretary of the said THOMSON ELECTRIC WELDING COMPANY, one of the complainants named in the foregoing bill; that he has read the foregoing bill subscribed to by him and knows the contents thereof; and that the same is true, of his own knowledge, except as to matters which are therein stated to be alleged on information and belief, and that as to those matters he believes it to be true.

(Seal)

J. SIDNEY STONE,
Notary Public.
My Commission expires Apl. 23, 1915.

State of New York, County of Queens, ss:

On this 17th day of November, 1910, before me personally appeared REGINALD HAWLEY, and made oath that he is the Secretary of the said Universal Electric Welding Company; that he has read the foregoing bill subscribed by him and knows the contents thereof; and that the same is true, of his own knowledge, except as to matters which are therein stated to be based on information and belief, and that as to those matters, he believes it to be true.

(Seal)

J. A. GLENNON,
Notary Public.

Filed Nov. 17, 1910.

CIRCUIT COURT OF THE UNITED STATES,

FOR THE SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, COMPLAINANTS,

against

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

IN EQUITY.

TO THE CLERK OF THE UNITED STATES CIRCUIT
COURT,

For the Southern District of New York:

PLEASE ENTER OUR APPEARANCE as solicitors for the
defendant above named, National Enameling & Stamping Company.

Dated New York, January 2, 1911.

GUGGENHEIMER, UNTERMAYER & MARSHALL,
*Solicitors for Defendant National
Enameling & Stamping Company.*
Office & Post Office Address,
37 Wall Street,
Borough of Manhattan,
New York City.

Filed Jan. 2, 1911.

IN THE CIRCUIT COURT OF THE UNITED STATES,

FOR THE SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, PLAINTIFFS,

vs.

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

IN EQUITY 7-2.

DEFENDANT'S ANSWER.

TO THE HONORABLE JUDGES OF THE CIRCUIT COURT
OF THE UNITED STATES, FOR THE SOUTHERN
DISTRICT OF NEW YORK:

The Answer of the National Enameling and Stamping Company
a Corporation duly organized and existing under the laws of the

State of New Jersey and having a principal place of business at No. 81 and 83 Fulton Street in the City of New York, in the State of New York, defendant herein, to the Bill of Complaint of the Thomson Electric Welding Company and the Universal Electric Welding Company, complainants herein.

This defendant, now and at all times hereafter saving and reserving to itself all and all manner of benefit and advantage of exception that can or may be had or taken to the manifold errors, uncertainties, imperfections and insufficiencies in the said bill of complaint contained, for answer thereto or to so much thereof as it is advised to be material or necessary for it to make answer unto, answering says:

FIRST: This defendant is not informed, save by the Bill of Complaint, whether the complainant, The Thomson Electric Welding Company is a corporation or is organized and exists under the Laws of the State of Massachusetts and therefore denies the same and leaves the complainants to make such proof thereof as they may be advised is material.

This defendant is not informed, save by the Bill of Complaint, whether the Complainant, The Universal Electric Welding Company, is a corporation duly organized and existing under the laws of the State of New York, and therefore denies the same and leaves the complainants to make such proof thereof as they may be advised is material.

This defendant admits that the National Enameling and Stamping Co. is a corporation duly organized under the laws of the State of New Jersey, and has a regular and established place of business in the City of New York and State of New York.

SECOND: This defendant, on information and belief, denies that Adolph F. Rietzel was or is the true, or the original, or the first inventor of a certain new and useful improvement in Uniting the Component Parts of Composite Sheet-Metal Structures or any new and useful improvements therein, as described in the specifications of the Letters Patent No. 928,701 and issued on the 20th day of July, 1909 to the Thomson Electric Welding Company of Lynn, Massachusetts, a corporation of Maine, as the assignee of the said Adolph F. Rietzel as alleged in said Bill of Complaint; denies that said Rietzel was the original and first inventor of the alleged improvement in Uniting the Component Parts of Sheet-Metal Structures, alleged to be since commonly known as Electric Spot or Point Welding; denies that the said invention was not known or used by others in this country before his (said Rietzel's) alleged invention; denies that it was not patented or described in any printed publication before his alleged invention or discovery, or more than two years prior to the filing in the United States Patent Office of his application for patent therefor; denies that the said method of electric spot welding was not in public use or machines therefor on sale in this country for more than two years before the date of his said application for said United States Let-

ters Patent; denies that said invention was not patented or caused to be patented by him or his legal representatives or assigns in any foreign country upon any application for patent filed more than one year prior to the filing on February 24, 1905 of his said application for United States Letters Patent here in suit. Whether said Rietzel made application in due form of law to the Commissioner of Patents of the United States for said alleged invention, or whether said Rietzel made or executed valid assignments of said invention or patent to the said Thomson Electric Welding Company of Maine, this defendant has no knowledge, information or belief and therefore leave the complainants to make proof thereof as they may be advised is material. But this defendant on information and belief denies that any title in and to said invention or Letters Patent became vested in said Company.

THIRD: This defendant admits that certain letters patent of the United States No. 928,701 bearing date July 20th, 1909 for an alleged improvement in Uniting the Component parts of Composite Sheet-Metal Structures were issued to Adolph F. Rietzel, assignor to Thomson Electric Welding Company, of Lynn, Massachusetts, a corporation of Maine, but it denies that said letters patent secured to said Rietzel or to said Thomson Electric Welding Company of Maine or the Complainants, the exclusive right, or any right, to make, use and vend the said alleged invention.

FOURTH: This defendant is not informed save by the Bill of Complaint as to whether the several instruments in writing set forth in the said Bill of Complaint as assigning and transferring to these complainants the rights and interests alleged in the Bill of Complaint as arising out of the said letters patent No. 928,701 were ever made, executed or recorded in the Patent Office of the United States as alleged, and therefore on information and belief denies the same and leaves the complainants to make such proof thereof as they may be advised is material.

FIFTH: This defendant further answering says it has no knowledge, information or belief that the said patent No. 928,701 is for the art of electric spot or point welding, or that spot or point welding is covered by the claims of the aforesaid Letters Patent or that it is of great value and importance, and therefore denies the same and leaves the complainants to make such proof thereof as they may be advised.

SIXTH: This defendant is not informed save by the Bill of Complaint whether or not Complainants have expended large sums of money in exploiting the invention purporting to be disclosed by said Letters Patent, or whether or not Complainants have spent large sums in bringing the said invention or patent to the notice of the various manufacturing concerns, and therefore deny the same, and leave the complainants to make such proof thereof as they may be advised is material;

Whether or not complainants have been paid large sums of money for the privilege of using the alleged invention of spot or

point welding set forth in and covered by the claims of said patent defendants do not know and are not informed save by said Bill of Complaint, and on information and belief therefore deny and require the Complainants to prove.

Whether or not complainants have received large sums of money for rights to use said invention, or expect to receive further large sums for such rights, defendants do not know and have not heard save as set forth in the Bill of Complaint, and therefore defendants deny the same and leave to Complainants to make proof.

SEVENTH: This defendant further answering denies that it has since the 20th day of July, 1909 used the art of electric point or spot welding set forth and claimed in the aforesaid Letters Patent No. 928,701, and denies that it has made, used or sold articles of sheet-metal that are an infringement of any claim of said patent.

This defendant admits that it has practiced and used a method of electrically welding sheet-metal articles, and was doing so for many years prior to the issue of said Letters Patent on the 20th day of July, 1909. Defendant avers that it is not indebted in the slightest degree to any disclosure in said patent of Complainants for the knowledge that defendant possesses of the art and method of electrically welding sheet-metal articles as the same has been practiced and used by the defendant long prior to July 20th, 1909, the date of said letters patent No. 928,701, and long prior to any knowledge or any information defendant has of said letters patent or of said Rietzel the alleged inventor thereof.

EIGHTH: This defendant further answering on information and belief, avers that the alleged improvements or inventions set forth in said patent 928,701 of Complainants are not new and useful, and their production does not and did not amount to invention in view of the state of the art existing prior to the date of the application of said Rietzel for his said letters patent.

NINTH: This defendant further answering, on information and belief avers that the said Adolph F. Rietzel for the purpose of deceiving the public made the descriptions and specifications filed by him in the Patent Office as a part of his application for said letters patent No. 928,701, to contain less than the whole truth relative to his alleged invention or discovery, and that the said Letters Patent No. 928,701 are therefore invalid and void.

TENTH: This defendant further answering says that the alleged invention described in said letters patent No. 928,701 was not, at the date of the application for said letters patent, a proper subject of letters patent of the United States, and did not involve, constitute or amount to invention or discovery but was in fact the mere adoption of the inventions or discoveries of others, made, used, patented and described in printed publications long prior to the application for said letters patent, and prior to the said alleged invention of said Adolph F. Rietzel.

ELEVENTH: This defendant further answering, on informa-

tion and belief, denies that the said Adolph F. Rietzel was the original or first inventor or discoverer of the improvements described and claimed in said Letters Patent No. 928,701 or of any material or substantial parts thereof and that the said alleged inventions, and improvements had been prior to the said alleged invention and discovery thereof by the said Adolph F. Rietzel, patented, described and shown in the following United States Letters Patent and had been known and used by the patentees thereof as follows, to wit:—

- No. 396,015, Jany. 8, 1889, to Elihu Thomson
- No. 403,707, May 21, 1889, to “
- No. 403,708, May 21, 1889, to “
- No. 423,966, March 25, 1890 to “
- No. 434,468, Aug. 19, 1890 to Russell Robb
- No. 444,928, Jan. 20, 1891, to Elihu Thomson
- No. 462,261, Nov. 3, 1891 to Herman Lemp & Carl G. Anderson
- No. 465,089, Dec. 15, 1891 to Elias E. Ries
- No. 486,626, Nov. 22, 1892 to Geo. D. Burton & Edwin E. Angell
- No. 496,019, Apr. 25, 1893 to Elihu Thomson
- No. 974,808, May 23, 1893 to Arthur J. Moxham
- No. 512,604, Jan. 9, 1894 to Charles L. Coffin,
- No. 537,008, Apr. 9, 1895 to Geo. D. Burton and Edward E. Angell
- No. 537,012, Apr. 9, 1895 to Geo. D. Burton and Edwin E. Angell
- No. 537,013, Apr. 9, 1895 to Geo. D. Burton and Edwin E. Angell
- No. 553,923, Feb. 4, 1896 to Herman Lemp
- No. 560,366, May 19, 1896 to David W. Payne
- No. 584,120, June 8, 1897 to David W. Payne and Eugene Diven
- No. 616,435, Dec. 20, 1898 to Richard Eyre and Wm. Dishong
- No. 616,436, Dec. 20, 1898 to Henry F. A. Kleinschmidt
- No. 616,437, Dec. 20, 1898 to “ “
- No. 645,066, Mar. 13, 1900, to Robert P. Brown and Franklin E. Morse
- No. 647,694, Apr. 17, 1900, to George D. Burton
- No. 660,152, Oct. 23, 1900 to John R. Duncan
- No. 670,808, Mar. 26, 1901 to John C. Perry
- No. 686,558, Nov. 12, 1901 to Elihu Thomson
- No. 690,958, Jan. 14, 1902 to Rudolph M. Hunter
- No. 758,503, Apr. 26, 1904 to Herman G. Blevins and James E. Whittaker
- No. 795,541, July 25, 1905 to Wm. S. Perry, Executor of John C. Perry

Also in the following foreign patents,—

BRITISH.

- No. 1516 of 1862, No. 1412 of 1865, No. 361 of 1889
- No. 377 of 1889, No. 21237 of 1890, No. 9975 of 1894
- No. 2901 of 1890, No. 1963 of 1891, No. 22261 of 1898

BRITISH.

- No. 4310 of 1890 No. 12322 of 1891 No. 11921 of 1903
- No. 4657 of 1890 No. 845 of 1892 No. 22981 of 1903

No. 7989 of 1890 No. 17223 of 1892 No. 6127 of 1904
No. 11465 of 1890 No. 17227 of 1892 No. 10053 of 1904
No. 18523 of 1890 No. 9974 of 1894 No. 28301 of 1904

GERMAN

24,335—38,011—43,650—46,776—50,909—70,350

FRENCH

177,885—181,409—198,209—335,889—336,187.

And other United States and Foreign Letters Patent at present to the Defendant unknown, which Defendant prays leave, when discovered, to insert herein by amendment.

TWELFTH: This defendant further answering, on information and belief, avers that the said Adolph F. Rietzel was not the original or first inventor or discoverer of the inventions of Letters Patent No. 928,701 or of any material or substantial part thereof, but that the same and all material or substantial parts thereof was known and in public use and the products or articles claimed therein were on sale in this country prior to the date of said Rietzel's application for said Letters Patent No. 928,701 by the following named persons whose places of residence are given together with the places where such public use or sale occurred:

Edwin F. Angell, of Somerville, Mass., at Somerville, Mass. and elsewhere in the United States;

George D. Burton, of Somerville, Mass., at Somerville, Mass. and elsewhere in the United States.

Robert P. Brown, of New York, N. Y. at New York, N. Y. and elsewhere in the United States;

Hermann G. Blevin of Newcastle, Penna., at Newcastle, Penna. and elsewhere in the United States;

Charles L. Coffin, of Detroit, Mich., at Detroit, Mich., and elsewhere in the United States.

Eugene Diven, of Elmira, N. Y., at Elmira, N. Y., and elsewhere in the United States;

Thomas A. Edison, of Orange, N. J., at Orange, N. J., and elsewhere in the United States;

Richard Eyre, of Johnstown, Pa., at Johnstown, Pa., and elsewhere in the United States;

Rudolph M. Hunter, of Philadelphia, Pa., at Philadelphia, Pa., and elsewhere in the United States;

Henry F. A. Kleinschmidt, of Johnstown, Pa., at Johnstown, Pa., and elsewhere in the United States;

Lorain Steel Co., of Lorain, Ohio, at Lorain, Ohio, and elsewhere in the United States;

Arthur J. Moxham, of Johnstown, Pa., at Johnstown, Pa., and elsewhere in the United States;

Franklin E. Morse, of New York, N. Y., at New York, N. Y., and elsewhere in the United States;

David W. Payne, of Elmira, N. Y. at Elmira, N. Y., and elsewhere in the United States.

John C. Perry, of Clinton, Mass., at Clinton, Mass., and elsewhere in the United States;

Russell Robb, of Boston, Mass., at Boston, Mass., and elsewhere in the United States.

Elias E. Ries, of Baltimore, Md., at Baltimore, Md., and elsewhere in the United States;

Elihu Thomson, of Lynn, Mass., at Lynn, Mass., and elsewhere in the United States;

Henry C. White, of Worcester, Mass., at Worcester, Mass., and elsewhere in the United States:

And by others at present to this defendant unknown, the names and addresses of whom and the places where the said uses and sale occurred the defendant, when discovered, prays leave to insert herein by amendment.

THIRTEENTH: This defendant further answering on information and belief avers that the methods claimed in said Letters Patent No. 928,701 are merely an adaptation of old and known methods to accomplish no novel result, and consist in the omission of a step or steps of said old and known methods with the omission in said claims of a statement of the purpose or result accomplished by said steps.

FOURTEENTH: This defendant further answering avers that the methods claimed in said Letters Patent of the United States No. 928,701 granted to said Rietzel are fully disclosed in the prior Letters Patent of the United States No. 690,958 issued to Rudolph M. Hunter, January 14, 1902 but are not claimed therein, said prior patent having been granted more than two years before said Rietzel filed his application for said patent No. 928,701, and that therefore the said methods were dedicated to the public by said Hunter, and could not in law be claimed by said Rietzel.

FIFTEENTH: This defendant further answering on information and belief alleges that the said Letters Patent No. 928,701 are invalid by reason of the fact that the claims thereof are too broad in view of the state of the prior art at the time that the application for such Letters Patent was filed, and also by reason of the fact that said claims were so greatly expanded beyond what they were when the Rietzel application was originally filed, as to describe a different invention.

SIXTEENTH: This defendant further answering denies all and all manner of wrongdoing wherewith it is charged in the bill of complaint, asserts that the said patent 928,701 has never been adjudicated in the Courts, and denies the right of Complainants to an injunction or an accounting, or any other relief prayed for in said Bill or otherwise, and defendant prays the same advantage for this answer as if it had pleaded the several matters and things aforesaid, as if for the reasons thereof it had demurred to the said bill of complaint where demurrer would have been proper, and the same benefit thereof as if it had specially pleaded to the bill where a special plea would have been proper; and it submits to this

Honorable Court that the premises considered the Complainants have no right to any further answer to said bill or any part thereof than is hereinbefore contained, and no right to any discovery, injunction, accounting, or any relief prayed for in said bill, and this defendant prays to be hence dismissed with its reasonable costs and charges in this behalf most wrongfully sustained.

NATIONAL ENAMELING & STAMPING CO. (Seal)
By A. M. STEINHARDT, *Treasurer*.

GUGGENHEIMER, UNTERMYER & MARSHALL,
Solicitors for Defendant,
37 Wall Street,
New York City, N. Y.

SAML. UNTERMYER,
Of Counsel.

(Endorsed) U. S. Circuit Court, Southern District N. Y., Filed
Feb. 4, 1911, John A. Shields, Clerk.

IN THE CIRCUIT COURT OF THE UNITED STATES,

FOR THE SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, PLAINTIFFS,

vs.

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

IN EQUITY 2-7

REPLICATION.

The replication of the above-named plaintiffs to the answer of the above-named defendant.

These replicants, saving and reserving to themselves all and all manner of advantage of exception which may be had and taken to the manifold errors, uncertainties, and insufficiencies of the answer of said defendant, for replication thereunto say that they do and will ever maintain and prove their said bill to be true, certain, and sufficient in the law to be answered unto by said defendant, and that the answer of said defendant is very uncertain, evasive, insufficient in the law to be replied unto by these replicants; without this, that any other matter or thing in the said answer contained material or effectual in the law to be replied unto, confessed, or avoided, traversed or denied, is true; all which matters and things these replicants are ready to aver, maintain, and prove as this Honorable Court shall direct, and humbly as in and by their said bill they have already prayed.

HENRY C. TOWNSEND,
Solicitor for Complainants.

New York, March 6th, 1911.
Filed March 6, 1911.

IN THE CIRCUIT COURT OF THE UNITED STATES,

FOR THE SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, PLAINTIFFS,*against*

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

IN EQUITY 7-2.

IT IS HEREBY CONSENTED by and between the parties to the above entitled action, that the defendant's answer be, and the same hereby is, amended nunc pro tunc, as of the date of the filing of the answer, by striking out of Paragraph Eleventh thereof the words "No. 4310 of 1890", and inserting in lieu thereof the words "No. 14310 of 1890", and by striking out of Paragraph Eleventh thereof the words "German 24335—38011—43650—46776—50909—70350; and inserting in lieu thereof the words "Austrian 24335; German 38011—43650—46776—50909—70350;" and it is further agreed that the replication heretofore filed stand as the replication to the answer as amended.

Dated New York, May 31, 1911.

HENRY C. TOWNSEND,
*Plaintiffs' Attorney.*GUGGENHEIMER, UNTERMYER & MARSHALL,
Defendant's Attorneys.

So ordered:

E. H. LACOMBE,
U. S. Cir. Judge.

Filed June 1, 1911.

UNITED STATES DISTRICT COURT,

SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING CO. & ANO., COMPLAINANTS,

against

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

State and County of New York, ss:

FREDERICK B. BERTRAND, JR., being duly sworn, says
that he is Clerk in the office of Guggenheimer, Untermeyer & Mar-

shall, the Attorneys for the above named defendant. That he resides at 444 E. 85th St., N. Y. City. Deponent further says, he did, on the 2nd day of June, 1913, serve upon Universal Electric Welding Co. one of the complainants in the above entitled action, a Proposed Decree and Notice of Settlement of which the annexed is a copy, by depositing the same, properly inclosed in a postpaid wrapper, in the Post Office Box at 37 Wall St., N. Y. C. directed to said Universal Electric Welding Co. at 47 West Street, New York City, that being the address, where it then kept an office, between which places there was and now is a regular communication by mail.

FREDERICK B. BERTRAND, JR.

Sworn and subscribed before me, this 2nd day of June, 1913.

RAPHAEL BRILL,

(Seal)

Notary Public, No. 151, N. Y. County.

UNITED STATES DISTRICT COURT,

SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING CO. & ANO., COMPLAINANTS,

against

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

State and County of New York, ss:

FREDERICK B. BERTRAND, JR., being duly sworn, says that he is a clerk in the office of Guggenheimer, Untermeyer & Marshall, the Attorneys for the above named Defendant. That he resides at 444 E 85th St., N. Y. C. Deponent further says, he did, on the 2nd day of June, 1913, serve upon Thomson Electric Welding Co. one of the complainants in the above entitled action, a proposed decree and notice of settlement, of which the annexed is a copy, by depositing the same, properly inclosed in a post-paid wrapper, in the Post Office Box at No. 37 Wall Street, N. Y. City, directed to said Thomson Electric Welding Co. at Lynn, Mass. that being the address where it then kept an office, between which places there then was and now is a regular communication by mail.

FREDERICK S. BERTRAND, JR.

Sworn and subscribed to before me, the 2nd day of June, 1913.

RAPHAEL BRILL,

(Seal)

Notary Public, No. 15, N. Y. County.

UNITED STATES DISTRICT COURT,
SOUTHERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, COMPLAINANTS,

against

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

SIRS:

PLEASE TAKE NOTICE that annexed copy of a decree which will be presented for settlement to Honorable George C. Holt, one of the Justices of this Court at the Court House in the Post Office Building, Borough of Manhattan, City of New York, on the 9th day of June, 1913, at 10 o'clock in the forenoon of that day.

Dated New York, June 2, 1913.

Yours, &c.,

GUGGENHEIMER, UNTERMYER & MARSHALL,

Solicitors for Defendant,

Office and P. O. Address,

37 Wall Street,
Bor. of Manhattan,
N. Y. City.

To

FISH, RICHARDSON, HERRICK & NEAVE,

5 Nassau Street, N. Y. City,

HENRY C. TOWNSEND,

149 Broadway, N. Y. City.

Solicitors and of Counsel for Complainants.

Thomson Electric Welding Company,
Lynn, Mass.

Universal Electric Welding Company,
47 West Street,
N. Y. City.

At the March Term of the United States District Court for the Southern District of New York, held at the Court House thereof, in the Post Office Building, in the Borough of Manhattan, City of New York, on the 9th day of June, 1913.

PRESENT:

HON. GEORGE C. HOLT,

Justice.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, COMPLAINANTS,

against

NATIONAL ENAMELING & STAMPING COMPANY, DEFENDANT.

It appearing that the replication herein was filed on March 6, 1911 and that no testimony had been taken, and the above case

coming on to be heard at this Court on the fifth day of March, 1913, and no one appearing for the Complainants, it is on motion of Guggenheimer, Untermeyer & Marshall, Solicitors for the Defendant,

ORDERED and ADJUDGED that the above entitled action be and the same is hereby dismissed for lack of prosecution without prejudice and without costs.

Enter:

GEO. C. HOLT,
U. S. D. J.

Filed June 10, 1913.

United States of America, Southern District of New York, ss.:

I, ALEXANDER GILCHRIST, Jr., Clerk of the District Court of the United States for the Southern District of New York, do hereby certify that the Writings annexed to this Certificate, viz: the papers in the case of Thomson Electric Welding Company and Universal Electric Welding Company, Plaintiffs, vs. National Enameling & Stamping Company, Defendant, Eq. 7-2, have been compared by me with their originals on file and remaining of record in my office; that they are correct transcripts therefrom and of the whole of the said originals.

IN TESTIMONY WHEREOF I have hereunto subscribed my name and affixed the seal of the said Court at the City of New York, in the Southern District of New York, this 10th day of May, in the year of our Lord one thousand nine hundred and Nineteen, and of the Independence of the said United States the one hundred and forty-third.

(Seal)

ALEXANDER GILCHRIST,
Clerk.

Defendant's Exhibit No. 47.

UNITED STATES DISTRICT COURT,

EASTERN DISTRICT OF NEW YORK.

Docket 11

TITLE OF CASE

THOMPSON ELECTRIC WELDING COMPANY and UNIVERSAL
ELECTRIC WELDING COMPANY

vs.

UNITED STATES METAL PRODUCTS COMPANY.

ATTORNEY

HENRY C. TOWNSEND
EDWARDS, SAGER & WOOSTER

1912

March 28 Bill of complaint and praecipe for subpoenas filed;
subpoena issued returnable the first Monday in
May, 1912.May 6 Subpoena returned. Served on defendant
" " Edwards, Sager & Wooster enter appearance for de-
fendant

June 3 Answer filed.

July 1 Replication filed

1913

March 14 Dismissed from calendar

Eastern District of New York, ss.

I, PERCY G. B. GILKES, Clerk of the District Court of the United States for the Eastern District of New York, do hereby certify that the foregoing is a true copy of the original docket entries remaining of record in my office in the suit of Thomson Electric Welding Co. et al. versus United States Metal Products Co.

In Testimony Whereof, I have caused the Seal of said Court to be hereunto affixed, at the Borough of Brooklyn, in the Eastern District of New York, this 17th day of April in the year of our Lord one thousand nine hundred and nineteen and of the Independence of the United States the one hundred and forty-third.

(Seal)

PERCY G. B. GILKES, *Clerk*.By J. G. COLMAN, *Deputy Clerk*.

Defendant's Exhibit No. 48.

IN THE DISTRICT COURT OF THE UNITED STATES
FOR THE EASTERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, PLAINTIFFS,

v/s.

UNITED STATES METAL PRODUCTS COMPANY, DEFENDANT.

IN EQUITY, No. 11.

BILL OF COMPLAINT.

To the Judges of the District Court of the United States for the Eastern District of New York:

1. The Thomson Electric Welding Company, a corporation duly organized and existing under the laws of the State of Massachusetts and having a principal place of business at Lynn, in the State of Massachusetts, and the Universal Electric Welding Company, a corporation duly organized and existing under the laws of the State of New York and having a principal place of business in the Borough of Queens, in the City of New York, State of New York, bring this, their bill of complaint, against the United States Metal Products Company, a corporation organized and existing under the laws of the State of Massachusetts and having a regular and established place of business, and having committed acts of infringement, as hereinafter complained of, at College Point, within the Eastern District of New York, and thereupon your orators complain and say:

2. That, as your orators are informed and believe and accordingly aver, Adolph F. Rietzel, being a citizen of the United States and a resident of Lynn, in the County of Essex and State of Massachusetts, and prior to the twenty-fourth day of February, Nineteen Hundred and Five, was the inventor of certain new and useful improvements in Uniting the Component Parts of Metal Structures, since commonly known in the art as Electric Spot or Point Welding, and not known or used by others in this country before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof or more than two years prior to his hereinafter recited application for patent therefor, and not in public use or on sale in this country for more than two years before his said application for Letters Patent, and not patented or caused to be patented by him or his legal representatives or assigns in any foreign country, upon any application for foreign patent filed more than one year prior to the filing of his hereinafter recited application for patent for said invention.

3. And your orators further show that after the filing of his

hereinafter recited application for Letters Patent and before the issuance of the Letters Patent, the said Adolph F. Rietzel, by an instrument in writing executed and delivered on or about the twenty-third day of March, Nineteen Hundred and Five, and recorded in the Transfers of Patents in the United States Patent Office on the twenty-second day of June, Nineteen Hundred and Five, in Liber H 72, p. 141, did sell, assign and transfer unto the Thomson Electric Welding Company, a corporation organized and existing under the laws of the State of Maine and having its principal office and place of business in the City of Lynn, State of Massachusetts, its successors and assigns, the whole right, title and interest in and to his aforesaid invention and application for patent therefor hereinafter recited and did authorize and request the Commissioner of Patents to issue the Letters Patent for said invention to the said Company as the sole owner thereof.

4. And your orators further show on information and belief that the said Adolph F. Rietzel made application according to law for Letters Patent of the United States for the aforesaid invention and that thereafter and after due proceedings had in all respects, and in pursuance of the aforesaid assignment, Letters Patent in due form of law for said invention were issued and delivered to the aforesaid Thomson Electric Welding Company, a corporation of Maine, as assignee of the said Adolph F. Rietzel, in the name of the United States of America under the seal of the Patent Office and signed by the Commissioner of Patents, granting to the said Thomson Electric Welding Company, a corporation of Maine, its successors and assigns, for the term of seventeen years from the twentieth day of July, 1909, the exclusive right to make, use and vend the said invention of Adolph F. Rietzel throughout the United States and the Territories thereof, as by said Letters Patent numbered 928,701, and dated July 20th, Nineteen Hundred and Nine, or a duly exemplified copy thereof, in Court to be produced, will more fully and at large appear.

5. And your orators further show that after the aforesaid assignment by Adolph F. Rietzel and prior to the issuance of the before-mentioned Letters Patent the Thomson Electric Welding Company of Maine to whose rights your orator, the Thomson Electric Welding Company of Massachusetts succeeded, as herein set forth, entered into a certain agreement with your orator, the Universal Electric Welding Company, which agreement, ever since the issuance of said patent, and up the beginning of this action, has been continuously in full force and effect, whereby your orator, the Universal Electric Welding Company, acquired the exclusive right to use the invention covered by the aforesaid Letters Patent in connection with machines built by said Thomson Electric Welding Company of Maine or with its permission, and leased to your orator, the Universal Electric Welding Company, upon a continuing fixed annual rental or royalty, to be paid to the said Thomson Electric Welding Company of Maine, its successors and assigns,

together with the right to sub-lease and let said machines, subject to the conditions and covenants of said agreement.

6. And your orators further show that until the execution and delivery of the instruments in writing specified in the next succeeding paragraph numbered 7, of this bill, the said Thomson Electric Welding Company of Maine remained the sole owner of the entire legal right, title and interest in and to the aforesaid Letters Patent and of all the rights, interests, obligations and remedies belonging to it by virtue of the aforesaid agreement between it and your orator, the Universal Electric Welding Company.

7. Your orators further show that by two certain instruments in writing executed and delivered respectively on or about the 11th day of March, 1910, and the 18th day of April, 1910, and duly recorded respectively in the Transfers of Patents in the United States Patent Office, July 19th, 1910, Liber S 84, p. 292 and 294, and April 27th, 1910, in Liber J 84, p. 112, the Thomson Electric Welding Company of Maine did sell, assign, transfer and convey unto your orator, the Thomson Electric Welding Company of Massachusetts, all its property, both real and personal, and all its assets, both tangible and intangible, of every nature and wherever situated, including the entire right, title and interest in and to the aforesaid invention and Letters Patent and the right to sue and recover for past infringement of said Letters Patent, and that your orator, the Thomson Electric Welding Company of Massachusetts, has ever since and up to the beginning of this action been the owner of all the rights, titles and interests thereby conveyed in and to the aforesaid Letters Patent and rights of action and in and under the aforesaid contract between your orator, the Universal Electric Welding Company and the Thomson Electric Welding Company of Maine.

8. Your orators further show that the art of electric spot or point welding covered by the claims of the aforesaid Letters Patent is of great value and importance in the art of manufacturing metal articles and particularly articles of sheet metal and that your orators have expended large sums of money in exploiting said invention and bringing the same to the notice of various manufacturing concerns and have been paid large sums of money for the right to use the invention of spot or point welding set forth in and covered by the claims of the aforesaid Letters Patent and continue to receive and expect to receive further large sums of money for said rights and that the wrongful acts of the defendant herein complained of will have the effect of encouraging others to violate your orators' exclusive rights and to refuse to pay the further sums of money due your orators for the grant of the rights to use said patented invention.

9. And your orators further show that the defendant was duly notified of the rights of your orators in the premises but that after such notice, as your orators are informed and believe and accordingly aver, and well knowing the premises and exclusive rights of your orators as aforesaid, and in violation of said rights, and with the intent of depriving your orators of the benefit and advantages

which would otherwise accrue to your orators from the possession of the exclusive rights conferred by the above-mentioned Letters Patent, and without the license and consent of your orators and against their will, and in infringement of said Letters Patent within six years before the commencement of this suit, did, within the Eastern District of New York and at its factory in College Point in said District, use the art or method of electric point or spot welding set forth and claimed in the aforesaid Letters Patent and did make and sell metal plates, articles and metal work set forth and claimed in said Letters Patent and threatens to continue to so violate the exclusive rights conferred by the said Letters Patent and to install additional machines for practicing the said art or method and manufacturing the metal work and articles set forth and claimed in said Letters Patent, without the license and consent of your orators and against the will of your orators and in infringement of said Letters Patent.

10. And your orators further show, on information and belief, that the machine used in practicing the electric point or spot welding complained of and on which the metal plates, articles and metal work complained of are made, is specially designed, adapted and constructed for the purpose of such use, and was sold to the predecessors of the defendant, United States Metal Products Company, from whom your orators aver, on information and belief, the said defendant, United States Metal Products Company, obtained title by The Toledo Electric Welding Company, a corporation of Ohio, and that the said The Toledo Electric Welding Company is engaged in the business of selling and has already sold, within six years before the commencement of this suit, a large number of machines of substantially the same design and construction, to other persons, for the same use; and for as much as the said The Toledo Electric Welding Company is out of the jurisdiction of this Court and as your orators are informed and believe, has agreed to defend any suits for infringement of the aforesaid Letters Patent brought against any users of machines sold by it, and for as much as said Company is largely interested in the event of this suit, these Complainants hereby invite the said The Toledo Electric Welding Company to appear and be made a party-defendant in this suit and to defend the party named as defendant.

11. TO THE END THEREOF, that the defendant may, if it can, show why your orators should not have the relief herein prayed, and may, according to the best of its knowledge, information, remembrance and belief, full, true, and perfect answer make (but not under oath, an answer under oath being hereby expressly waived) to all and singular the matters herein stated and charged, as fully and particularly as if the same were herein repeated and the defendant especially interrogated as to each and every of such matters; that by a decree of this Court the defendant may be compelled to account for and pay over to your orators all damages which your orators have sustained, or shall sustain, on account of the defendant's in-

fringement of said Letters Patent, together with all gains and profits resulting to the defendant from said infringement; that the defendant, its officers, clerks, attorneys, agents, servants, and workmen, may be restrained, permanently and during the pendency of this suit, by an injunction, from using or practicing the method of uniting the component parts of composite sheet metal structures as described and claimed in said Letters Patent and from using or causing to be used, machines or apparatus operating according to said method and from making, using and selling any metal plates or articles as described and claimed in said Letters Patent; that it may be decreed to pay the costs of this suit and that your orators may have such other and further relief as the nature of this case may require, and to this Court may seem just.

12. MAY IT PLEASE YOUR HONORS to grant to your orators not only a writ of injunction but also a writ of subpoena, issuing out of and under the seal of this Honorable Court, and directed to the said United States Metal Products Company, and commanding it to appear and make answer to this bill of complaint, and to perform and abide by such order and decree herein as to this Court shall seem just.

THOMSON ELECTRIC WELDING CO.

By W. H. HODGE, *Secretary*.

UNIVERSAL ELECTRIC WELDING CO.

REGINALD HAWLEY, *Acting Secretary*.

(Seal)

HENRY C. TOWNSEND,

Solicitor for Plaintiffs.

FREDERICK P. FISH,

Of Counsel.

State of Massachusetts, County of Essex, ss:

On this 20th day of March, 1912, before me personally appeared W. H. Hodges and made oath that he is the Secretary of the said THOMSON ELECTRIC WELDING COMPANY; that he has read the foregoing bill subscribed by him and knows the contents thereof; and that the same is true, of his own knowledge, except as to matters which are therein stated to be based on information and belief, and that as to those matters, he believes it to be true.

HAMSON P. BURRILL,

(Seal)

Notary Public.

(SEAL)

Commission expires June 14, 1912.

State of New York, County of Queens, ss:

On this 28th day of March, 1912, before me personally appeared Reginald Hawley, and made oath that he is the Acting Secretary of the said UNIVERSAL ELECTRIC WELDING COMPANY; that he has read the foregoing bill subscribed by him and knows the contents thereof; and that the same is true, of his own knowledge, except as to matters which are therein stated to be based on information and belief, and that as to those matters, he believes it to be true.

CHARLES BRESLOFF,

(Seal)

Notary Public, Queens Co.

UNITED STATES DISTRICT COURT, FOR THE EASTERN
DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, COMPLAINANTS,

vs.

UNITED STATES METAL PRODUCTS COMPANY, DEFENDANT.

IN EQUITY No. 928,701—ON RIETZEL PATENT.

ANSWER.

To the Honorable the Judges of the United States District Court
for the Eastern District of New York:

This defendant, now and at all times, saving and reserving unto
itself all benefit and advantage of exception which can or may be
had or taken to the manifold errors, uncertainties, imperfections,
and insufficiencies of said bill of complaint for answer thereunto, or
unto so much or such part thereof as defendant is advised it is ma-
terial or necessary to make answer unto, says:

1. Defendant answering says that it is not informed, save by said
bill of complaint, as to whether the complainant, Thomson Electric
Welding Company, is a corporation duly organized and existing un-
der the laws of the State of Massachusetts, having a principal place
of business at Lynn, in said State, or whether the complainant, Uni-
versal Electric Welding Company, is a corporation duly organized
and existing under the laws of the state of New York, having a
principal place of business in the Borough of Queens, in the City and
State of New York, as alleged in the said Bill of Complaint, and
therefore denies the same, but defendant, United States Metal Pro-
ducts Company, admits that it is a corporation duly organized and ex-
isting under the laws of the State of Massachusetts and having a
regular and established place of business at College Point, in the
Eastern District of New York.

2. Defendant answering, upon information and belief, denies that
heretofore and prior to the 24th day of February, 1905, one Adolph
F. Rietzel was the true, original and first inventor or discoverer of
the alleged new and useful improvements in Uniting the Component
Parts of Metal Structures, or electric spot or point welding, as set
forth in said bill of complaint, or any material or substantial part
thereof, and denies that said alleged invention or improvement was
not known or used in this country before his alleged invention or dis-
covery thereof, and not patented or described in any printed publi-
cation in this or in any foreign country before the alleged invention
or discovery thereof by said Adolph F. Rietzel, and denies that the
said alleged invention was not in public use or on sale in the United
States for more than two years prior to his application for Letters

Patent therefor or that the same had not been patented or caused to be patented by him or his legal representatives or assigns in any foreign country upon an application for foreign patent filed more than twelve months prior to the filing of his application for Letters Patent of the United States thereof, and were not, nor had not been abandoned.

3. Defendant, further answering, says that it has no knowledge, save as derived from the bill of complaint herein, as to whether the said Adolph F. Rietzel, by an instrument in writing alleged to have been executed, delivered and recorded in the Patent Office, sold, assigned or transferred unto the Thomson Electric Welding Company, a corporation of Maine, all of his alleged right, title or interest in and to the said application for Letters Patent, or in and to the alleged invention or improvement therein described, or as to whether the said alleged instrument in writing authorized or requested the Commissioner of Patents to grant unto the said Thomson Electric Welding Company, of Maine, any Letters Patent which might be issued pursuant to said application, and therefore leaves complainant to make such proof thereof as it may be advised.

4. Defendant, further answering, upon information and belief, admits that Letters Patent of the United States, No. 928,701, were issued to Thomson Electric Welding Company, a corporation of Maine, on the 20th day of July, 1909, but whether or not the said Letters Patent were signed, sealed, executed or issued in due form of law in all respects, or whether the provisions of the statutes of the United States in such case made and provided were only or at all complied with, this defendant has no knowledge, and therefore leaves complainant to make such proof thereof as it may; but this defendant denies that there was any valid grant unto the said Thomson Electric Welding Company, of Maine, its successors or assigns for the term of seventeen years from the date of said Letters Patent of the alleged full and exclusive right of making, using or vending to others to be used the said alleged improvements.

5. This defendant is not informed, save by the bill of complaint, as to whether the several instruments in writing set forth in said bill of complaint as assigning and transferring to these complainants or any of them the rights and interests alleged in the bill of complaint as arising out of the said Letters Patent, No. 928,701, were ever made, executed or recorded in the Patent Office of the United States as alleged, and therefore, upon information and belief, denies the same and leaves the complainants to make such proof thereof as they may be advised is material.

6. This defendant, further answering, says that it has no knowledge, information or belief that the said Letters Patent No. 928,701 is for the art of electric spot or point welding; or that spot or point welding is covered by the claims of the aforesaid Letters Patent, or that it is of great value and importance or that complainants have expended large sums of money in exploiting the aforesaid alleged invention of said Letters Patent, or whether or not complainants

have spent large or any sums of money in bringing said alleged invention to the notice of the various manufacturing concerns, or whether complainants have been paid large or any sums of money for the privilege of using the alleged invention covered by the claims of said patent, or as to whether or not complainants have received large or any sums of money for rights to use said invention or expect to receive further large or any sums of money for such rights, and therefore denies the same.

7. Defendant, further answering, upon information and belief, denies that it has had any knowledge of the premises set forth in the bill of complaint, or of the alleged exclusive rights or privileges of the complainants herein, or without the alleged license or permission of said complainants, or against their will and restraint, or in violation or infringement of their alleged rights under said Letters Patent, since the issuance thereof, or within six years prior to the filing of the bill of complaint herein, or at any other time, unlawfully or wrongfully made, used or sold within the Eastern District of New York, and at its factory in College Point, in said District, or elsewhere within the United States, or now continues or threatens to continue to make, use or sell in said District any metal plates, articles or metal work embodying, containing or employing the alleged invention of said Letters Patent or any substantial or material parts thereof in alleged violation of complainant's rights.

8. Defendant, further answering, upon information and belief, says that it is not informed, save as alleged in the bill of complaint herein, as to whether the allegations set forth in paragraph 10 of said bill of complaint are true and correct, and therefore denies the same and leaves complainants to make such proof thereof as they may be advised.

9. This defendant, further answering, on information and belief, avers that the said Adolph F. Rietzel, for the purpose of deceiving the public, made the descriptions and specifications filed by him in the Patent Office as a part of his application for said Letters Patent No. 928,701, to contain less than the whole truth relative to his alleged invention or discovery, and that the said Letters Patent No. 928,701 are therefore invalid and void.

10. This defendant, further answering, says that the alleged invention described in said Letters Patent No. 928,701 was not, at the date of the application for said Letters Patent, a proper subject of Letters Patent of the United States, and did not involve, constitute or amount to invention or discovery, but was in fact the mere adoption of the inventions or discoveries of others, made, used, patented and described in printed publications long prior to the application for said Letters Patent, and prior to the said alleged invention of said Adolph F. Rietzel.

11. This defendant, further answering, on information and belief, denies that the said Adolph F. Rietzel was the original and first inventor or discoverer of the improvements described and claimed in said Letters Patent No. 928,701 or of any material or substantial

parts thereof and that the said alleged inventions, and improvements had been prior to the said alleged invention and discovery thereof by the said Adolph F. Rietzel, patented, described and shown in the following United States Letters Patent and had been known and used by the patentees thereof as follows, to wit:—

No. 396,015	Jan. 8, 1889	to Elihu Thomson
403,707	May 21, 1889	" "
403,708	May 21, 1889	" "
423,966	Mar. 25, 1890	" "
434,468	Aug. 19, 1890	Russell Robb
444,928	Jan. 20, 1891	Elihu Thomson
462,261	Nov. 3, 1891	Herman Lemp & Carl G. Anderson
465,089	Dec. 15, 1891	Elias E. Ries
486,626	Nov. 22, 1892	George D. Burton & Edwin E. Angell
496,019	Apr. 25, 1893	Elihu Thomson
497,808	May 23, 1893	Arthur J. Moxham
512,604	Jan. 9, 1894	Charles L. Coffin
537,008	Apr. 9, 1895	George D. Burton & E.E. Angell
537,012	Apr. 9, 1895	" " " " " "
537,013	Apr. 9, 1895	" " " " " "
553,923	Feb. 4, 1896	Herman Lemp
560,366	May 19, 1896	David W. Payne
584,120	June 8, 1897	D. W. Payne & Eugene Diven
616,435	Dec. 20, 1898	Richard Eyre & Wm. Dishong
616,436	Dec. 20, 1898	Henry F. A. Kleinschmidt
616,437	Dec. 20, 1898	" " "
645,066	Mar. 13, 1900	Robert P. Brown & Franklin E. M. Morse.
647,694	Apr. 17, 1900	George D. Burton
660,152	Oct. 23, 1900	John R. Duncan
670,808	Mar. 26, 1901	John C. Perry
868,558	Nov. 12, 1901	Elihu Thomson
690,958	Jan. 14, 1902	Rudolph M. Hunter
758,503	Apr. 26, 1904	Herman G. Blevins & James E. Whittaker
795,541	July 25, 1905	William S. Perry, Executor of John C. Perry

Also in the following foreign patents:—

British.

No. 1516	of 1862	No. 9975	of 1894
1412	1865	22261	1898
361	1889	11921	1903
377	1889	22981	1903
2901	1890	6127	1904
14310	"	10053	1904
4657	"	28301	1904
7989	"		

11465	"
18523	"
21237	"
1963	1891
12322	"
845	1892
17223	"
17227	"
9974	1894

Austrian.

24,335

German.

38,011 — 43,650 — 46,776 — 50,909 — 70350

French.

177,885 — 181,409 — 198,209 — 335,889 — 336,187

And other United States and foreign Letters Patent at present to the defendant unknown, which defendant prays leave when discovered to insert herein by amendment.

12. This defendant, further answering, on information and belief, avers that the said Adolph F. Rietzel was not the original or first inventor or discoverer of the alleged inventions of Letters Patent No. 928,701 or of any material or substantial part thereof, but that the same and all material or substantial parts thereof was known and in public use and the products or articles claimed therein were on sale in this country prior to the date of said Rietzel's application for said Letters Patent No. 928,701 by the following named persons whose places of residence are given, together with the places where such public use or sale occurred:

Edwin E. Angell, of Somerville, Mass., at Somerville, Mass., and elsewhere in the United States;

George D. Burton, of Somerville, Mass., at Somerville, Mass., and elsewhere in the United States;

Robert P. Brown, of New York City, N. Y., at New York City, N. Y., and elsewhere in the United States;

Herman G. Blevin, of Newcastle, Penn., at Newcastle, Penn., and elsewhere in the United States;

Charles L. Coffin, of Detroit, Mich., at Detroit, Mich., and elsewhere in the United States.

Eugene Diven, of Elmira, N. Y., at Elmira, N. Y., and elsewhere in the United States;

Thomas A. Edison, of Orange, N. J., at Orange, N. J., and elsewhere in the United States;

Richard Eyre, of Johnstown, Pa., at Johnstown, Pa., and elsewhere in the United States;

Rudolph M. Hunter, of Philadelphia, Pa., at Philadelphia, pa., and elsewhere in the United States;

Henry F. A. Kleinschmidt of Johnstown, Pa., at Johnstown, Pa., and elsewhere in the United States;

Lorain Steel Co., Lorain, Ohio, at Lorain, Ohio, and elsewhere in the United States;
Arthur J. Moxham, of Johnstown, Pa., at Johnstown, Pa., and elsewhere in the United States;
Franklin E. Morse, New York City, N. Y., at New York City, N. Y., and elsewhere in the United States;
David W. Payne, Elmira, N. Y., at Elmira, N. Y., and elsewhere in the United States;
John C. Perry, of Clinton, Mass., at Clinton, Mass., and elsewhere in the United States;
Russell Robb, of Boston, Mass., at Boston, Mass., and elsewhere in the United States;
Elias E. Ries, of Baltimore, Md., at Baltimore, Md., and elsewhere in the United States;
Elihu Thomson, of Lynn, Mass., at Lynn, Mass., and elsewhere in the United States;
Henry C. White, Worcester, Mass., at Worcester, Mass., and elsewhere in the United States.

And by others at present to this defendant unknown, the names and addresses of whom and the places where the said uses and sale occurred by defendant, when discovered, prays leave to insert herein by amendment.

13. This defendant further answering on information and belief avers that the methods claimed in said Letters Patent No. 928,701 are merely an adaptation of old and known methods to accomplish no novel result, and consists in the omission of a step or steps of said old and known methods with the omission in said claims of a statement of the purpose or result accomplished by said steps.

14. This defendant further answering on information and belief alleges that the said Letters Patent No. 928,701 are invalid by reason of the fact that the claims thereof are too broad in view of the state of the prior art at the time that the application for such Letters Patent was filed, and also by reason of the fact that said claims were so greatly expanded beyond what they were when the Rietzel application was originally filed, as to describe a different invention.

15. Defendant further answering on information and belief alleges that if any invention is involved in the claims in suit of the Rietzel patent No. 928,701, that then, and in that event, the said Rietzel patent was surreptitiously and unjustly obtained for that which was in fact invented by one Johann Harmatta, of Szepesvaralja, Hungary, who was using reasonable diligence in adapting and perfecting the same.

16. This defendant further answering denies all and all manner of wrongdoing wherewith it is charged in the bill of complaint, asserts that the said patent No. 928,701 has never been adjudicated in the courts, and denies the rights of complainants to an

injunction or an accounting, or any other relief, prayed for in said bill or otherwise, and defendant prays the same effect for this answer as if it had pleaded the several matters and those aforesaid, as if for the reasons thereof it had demurred to the said bill of complaint where a demurrer would have been proper, and the same benefit thereof as if it had specially pleaded to the bill where a special plea would have been proper, and defendant submits to this Honorable Court and insists that the premises considered the complainants have no right to any further answer to said bill or any part thereof than is hereinbefore contained, and no right to any discovery, injunction, accounting, or any relief prayed for in said bill, and this defendant prays to be hence dismissed with its reasonable costs and charges in this behalf most wrongfully sustained.

EDWARDS, SAGER & WOOSTER,
Solicitors for Defendant,
2 Rector Street,
Borough of Manhattan.
New York, N. Y.

IN THE DISTRICT COURT OF THE UNITED STATES
FOR THE EASTERN DISTRICT OF NEW YORK.

THOMSON ELECTRIC WELDING COMPANY and UNIVERSAL ELECTRIC
WELDING COMPANY, PLAINTIFFS,

vs.

UNITED STATES METAL PRODUCTS COMPANY, DEFENDANT.

IN EQUITY No. 11.

REPLICATION.

The replication of the above-named plaintiffs to the answer of the above-named defendant.

These replicants, saving and reserving to themselves all and all matter of advantage or exception which may be had and taken to the manifold errors, uncertainties, and insufficiencies of the answer of said defendant, for replication thereunto say that they do and will ever maintain and prove their said bill to be true, certain, and sufficient in the law to be answered unto by said defendant, and that the answer of said defendant is very uncertain, evasive, and insufficient in the law to be replied unto by these replicants; without this, that any other matter or thing in the said answer contained material or effectual in the law to be replied unto, confessed, or avoided, traversed, or denied, is true; all which matters and things these replicants are ready to aver, maintain, and prove as this Honorable Court shall direct, and humbly as in and by their said bill they have already prayed.

HENRY C. TOWNSEND,
Solicitor for Complainants.

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DEFENDANT'S EXHIBIT NO. 49 DYER PHOTOGRAPHS
A-1 TO A-6—NOT REPRODUCED.

DEFENDANT'S EXHIBIT No. 50, DYER PHOTOGRAPHS
B-1 TO B-14—NOT REPRODUCED

2018
300

DEFENDANT'S EXHIBIT NO. 51, DYER PHOTOGRAPHS
C-1 TO C-8—NOT REPRODUCED.

DEFENDANT'S EXHIBIT AGREEMENT OF AUG. 3, 1912, BETWEEN
THOMSON ELEC. WELD. CO. AND AMERICAN ELEC. WELD. CO.

AGREEMENT made this third (3rd) day of August, 1912, between the THOMSON ELECTRIC WELDING CO., a corporation organized and existing under the laws of the State of Massachusetts, and having its usual place of business in Lynn, in the Commonwealth of Massachusetts, party of the first part, hereinafter called the Thomson Co., and the AMERICAN ELECTRIC WELDING CO., a corporation organized and existing under the laws of the State of New York, part of the second part, hereinafter called the American Co.,

WITNESSETH:

WHEREAS the Thomson Co., is the owner of the following U. S. Letters patent and applications for U. S. Letters Patent, to wit:

Patents.

No. 928,701 to A. F. Rietzel	dated July 20, 1909.
No. 973,586 to E. Thomson	" Oct. 25, 1910.
No. 985,838 to A. F. Rietzel	" Mar. 7, 1911.
No. 1,001,828 to A. F. Rietzel	" Aug. 29, 1911.
No. 1,002,759 to A. F. Rietzel	" Sep. 5, 1911.
No. 1,005,880 to A. F. Rietzel	" Oct. 17, 1911.
No. 1,020,056 to A. F. Rietzel	" Mar. 12, 1912.

Applications.

No. 337,136 of A. F. Rietzel	filed.
No. 349,547 of A. F. Rietzel	filed.
No. 426,959 of A. F. Rietzel	"
No. 342,456 of A. F. Rietzel	"
No. 459,601 of A. F. Rietzel	"
No. 523,766 of E. Thomson	"

and is also the owner of other inventions, U. S. Patents, and applications for U. S. Patents pertaining to the welding of metal plates over their plane surfaces by electricity, the union being affected in spots by the passage of the current from plate to plate, including machines and processes used in said electric welding, and the product of said processes; and

WHEREAS the Thomson Electric Welding Co., a corporation organized and existing under the laws of the State of Maine, the predecessor of the Thomson Co., party of the first part hereto, entered into agreements with the Standard Pulley Mfg. Co., a corporation organized and existing under the laws of the State of New York, respectively dated March 15, 1905, Nov. 3, 1905, and Nov. 27, 1905, by which the said Standard Pulley Mfg. Co. ac-

quired certain rights under the inventions, patents, and applications for patents of the predecessor of the Thomson Company; and

WHEREAS, by an agreement dated Feb. 24, 1906, the said Standard Pulley Mfg. Co. sold, assigned and transferred to the American Co., the party of the second part hereto, the full and exclusive rights acquired by it under the said agreements with the predecessor of the Thomson Co., respectively dated March 15, 1905, November 3, 1905 and November 27, 1905, so far as the same relate to metal cooking utensils, metal hollow and table ware, metal house ware, metal cans, and articles of a similar character, or to electric welding machines or parts thereof, to be used in the manufacture of such ware and articles, together with other rights set forth in said agreement of February 24, 1906; and

WHEREAS the predecessor of the Thomson Co., the American Co., and the said Standard Pulley Mfg. Co. entered into an agreement on March 14, 1906, wherein the predecessor of the Thomson Co. consented to and ratified the said assignment and transfer of February 24, 1906, from the said Standard Pulley Mfg. Co. to the party of the second part hereto; and

WHEREAS by an agreement dated March 20, 1906, the predecessor of the Thomson Co., party of the first part, pursuant to the provisions of the said agreement of March 14, 1906, granted to the American Co., party of the second part hereto, a certain lease or license under the inventions, United States patents, and applications for U. S. Letters Patent of said predecessor of the Thomson Company; and whereas said lease or license of March 20, 1906, was thereafter modified by agreements in writing between the predecessor of the Thomson Co. and the American Co., dated respectively September , 1906 and April 11, 1908; and

WHEREAS the parties hereto desire to modify the said Lease and License in certain respects:

NOW, THEREFORE, FOR AND IN CONSIDERATION OF THE sum of One Dollar (\$1.00) by each to the other in hand paid, the receipt of which is hereby acknowledged, and in consideration of the premises, it is hereby agreed between the parties to these presents as follows:

First: The Thomson Co. hereby gives and grants unto the American Co., the exclusive right to use and to license others to use, the machines and processes described and covered in and by the above recited patents and applications for patents, or in and by any other U. S. Letters Patent that is now or may be hereafter acquired by the Thomson Co., pertaining to the welding of metal plates over their plane surfaces by electricity, the union being effected in spots by the passage of the current from plate to plate in the manufacture of metal cooking utensiles, metal hollow and table ware, metal house ware, metal cans, and articles of a similar character, whether tinned, galvanized or japanned, or finished in any other manner; also the exclusive right to make, use and sell, and to license others to make, use and sell, metal cooking utensiles, metal hollow and

table ware, metal house ware, metal cans, and articles of a similar character embodying the inventions, or any of them described and covered in and by the above recited patents and applications for patents, or any other patents that are now owned, or may be hereafter acquired by the Thomson Co., pertaining to the welding of metal plates over their metal surfaces by electricity, the union being effected in spots by the passage of the current from plate to plate, or to the articles produced by any such process, it being understood that the machines for manufacturing such ware shall be obtained and leased from the Thomson Co. under the terms and provisions of this agreement except as hereinafter provided.

Second: The Thomson Co. in consideration of one dollar (\$1.00) to it paid by the American Co., the receipt whereof is hereby acknowledged, and of the covenants of the American Co. hereinafter contained, does hereby lease and let to the American Co. (subject, however, to the terms, and conditions of this lease), the machines heretofore furnished by the Thomson Co. or its predecessor, to the American Co. under the previous contracts above mentioned, and the machines to be hereafter furnished by the Thomson Co. to the American Co. pursuant to the terms of this lease; and this lease shall continue in force until the expiration of all the Letters Patent of the United States, both of the Thomson Co. and of the American Co., and of L. S. Lachman, of the City of New York, also of Maurice Lachman of the City of New York, whether owned or controlled by any or all of the said parties, the inventions of which are or shall be embodied in said machines, or at any time involved in the use thereof, or embodied in the product thereof, unless this lease shall be sooner terminated by the fault of the American Co. in accordance with the provisions hereinafter contained; whereupon the possession of such machines shall immediately revert in and be restored to the Thomson Co.

Third: The American Co. shall purchase all of the welding machines used by it, or its sub-lessees under this license, from the Thomson Co., except as hereinafter provided, and the Thomson Co. agrees to supply said machines as soon as possible upon request, and when supplied, said machines shall be subject to all the conditions and covenants of this lease.

Fourth: As soon as any such machine has been delivered by the Thomson Co. to the American Co., or its sub-lessee, the American Co. shall pay to the Thomson Co. for the said machine an amount equal to the cost to the Thomson Co. to produce the machine in question, plus 15%, using every reasonable effort to produce such machine at the lowest possible cost to it. The American Co. shall also pay to the Thomson Co. on each such hand machine an annual rental or royalty of One Hundred Dollars (\$100.00), and on each semi-automatic machine an annual rental or royalty of One Hundred Twenty-Five Dollars (\$125.00), and on each automatic machine an annual rental or royalty of One Hundred Fifty Dollars (\$150.00), the said annual rental to be paid to the Thomson Co. in quarterly installments, in January, April, July and October of each

and every year during the continuance of this lease. The first quarterly payment on each such machine shall be computed pro rata from the date of its delivery by the Thomson Co. to the beginning of the following quarterly period.

Fifth: Said machines are leased only for the purpose of welding according to the method heretofore described, and for the purpose of welding articles heretofore described, and the American Co. agrees not to use, nor to permit others to use, said machines in any other way or for any other purpose.

Sixth: Said machines may be used by the American Co. in any locality in the United States, and the American Co. may sub-lease and let any and all of said machines to any party or parties within the United States it deems fit, but said machines shall, nevertheless, be subject to all the conditions and covenants of this lease when sub-leased and let, the same as if they were used by the American Co. itself.

Seventh: The American Co. shall not add to, or subtract from, said welding machines, any mechanism whatever now or hereafter organized or connected therewith by the Thomson Co., nor allow to be made any change or alteration in same, without the consent and authority in writing of the Thomson Co.; the Thomson Co. and its agents may at all reasonable times have convenient access to said machines to examine and inspect the same and the use thereof, and to alter or improve the same, as herein contemplated, as it shall see fit.

Eighth: The American Co. covenants and agrees never at any time during the terms of the said Letters Patent above referred to, or any of them, to violate or infringe said patents under which the American Co. is hereby licensed, or any of them nor ever to contest or question the validity of the same, or the sufficiency of their specifications, or the Thomson Co.'s title thereto.

Ninth: It is also agreed that the American Co. shall at any time have the right, upon six months' notice in writing of its intention so to do, to surrender any machine, and, upon the surrender of such machine and the payment to the Thomson Co. of all sums due as original payment and continuing rental or royalty to the day of the expiration of the said notice, said machine shall be released from this instrument, and the American Co. shall not be required to pay any further continuing rental or royalty upon any machine so surrendered; on the surrender of all the machines subject to this instrument, the American Co. not being in default in any of its provisions, this lease shall be cancelled, and all the further obligations of the parties hereto cease and determine.

Tenth: It is further agreed that, if the American Co. shall have fully complied with the terms and conditions herein set forth, and not otherwise, then upon the expiration of all the Letters Patent of the United States, owned or controlled by both the Thomson Co. and the American Co., and by said L. S. Lachman and said Maurice Lachman, the inventions of which shall at any time be embodied

in said machines or involved in the use thereof, the American Co. shall have the privilege of purchasing said machines upon the payment therefor of One Dollar (\$1.00), and upon such purchase the Thomson Co. will transfer the property in said machines to said American Co. by a proper bill of sale.

Eleventh: In case the American Co. neglects or refuses to perform and observe any or all of the agreements, terms, or conditions in this lease contained, the Thomson Co. shall have the right to terminate the same by giving to the American Co. fifteen days' notice in writing of its intention so to do, and if the American Co. fails to repair and make good such default or defaults, on account of which the notice was given, on or before the expiration of said fifteen days, this lease, and all the rights of the American Co. hereunder, shall be wholly at an end, and the Thomson Co. released from all its obligations herein contained, but the American Co. shall not thereby be released from the liability to pay the rentals or royalties at the rate aforesaid already accrued at the termination of the lease, nor from the American Co.'s covenant in Clause "Eighth" hereof. Upon the termination of this lease in any of the contingencies aforesaid, said machines shall be released and discharged from this lease, and the possession thereof shall immediately revert in and be restored to the Thomson Co. who, by itself or its agents, may enter the premises of the American Co. or the sub-lessee, and all persons claiming under it, and may take or remove the machines without being deemed guilty of any trespass or tort; or the Thomson Co. may pursue the appropriate remedy at law or in equity against the American Co., any sub-lessee, or the persons in whom the machines, or any parts thereof, may be found. And on the termination of the said lease upon either or any of the events or contingencies aforesaid, the American Co. shall have no claim or right to the repayment by the Thomson Co. of the whole or any part of the sums which the American Co. may have paid as an original payment, or as royalties or otherwise, under this agreement, or as consideration for the execution of the same.

Twelfth: In case any of the said machines be subleased by the American Co. by an instrument in writing, which shall reserve practically similar security to the American Co., in relation to such machine or machines, as is reserved to the Thomson Co. by this agreement, and such sub-lessee shall neglect or refuse to perform and observe any of the provisions, terms or conditions in said sublease to it contained in relation to any machine so sub-let, or the sub-lessee shall fail to repair and make good such default within fifteen (15) days after written notice thereof is given to the American Co. by the Thomson Co., then in every such event the provisions of the preceding article of this agreement (Article No. Eleventh) are not to be operative or apply, provided, however, that the American Co. shall promptly thereafter exercise its right to terminate the sub-lease and use every reasonable effort, by way of legal proceedings or otherwise, and shall spare no reasonable ex-

pense, to recover the possession of the machine or machines so held under such sub-lease.

Thirteenth: It is agreed by the American Co. that it will do everything reasonably within its power to persuade its sub-lessees under this agreement to use welding machines furnished by the Thomson Co. in the manufacture of the ware heretofore specified. But it is agreed between the parties hereto that if any party is now using electric welding machines in the manufacture of the above specified ware, which machines were not obtained from the Thomson Co., or its predecessor, the American Co. shall have the right to license the said party to use the said machines under the patents and applications for patents hereinbefore referred to, for the purpose of manufacturing the kinds of ware above specified, and to use and sell the ware so manufactured, provided that the American Co. shall pay to the Thomson Co. an annual rental or royalty of one hundred dollars (\$100.00) on each hand machine, and an annual rental or royalty of One Hundred Twenty-Five Dollars (\$125.00) on each semi-automatic machine, and an annual rental or royalty of One Hundred Fifty Dollars (\$150.00) on each automatic machine, so licensed, as specified in the Clause "Fourth" hereof, so long as such license remains in force; which payments said American Co. agrees to make.

Fourteenth: All the rights, interests and remedies vested in the Thomson Co. under this instrument, and also all those which belong to it by reason of ownership of said machines now or hereafter embraced in or made subject to the terms of this agreement, shall be deemed to belong to and be enforceable by the successors and assigns of the Thomson Co., and in their own name respectively.

IN WITNESS WHEREOF the parties hereto have caused their names to be signed hereto, and their corporate seals to be affixed by their proper officers, thereunto duly authorized, the day and year first above written.

THOMSON ELECTRIC WELDING CO.

(Seal)

By W. W. HODGES, *Sec'y & Treas.*

AMERICAN ELECTRIC WELDING CO. OF NEW YORK.

(Seal)

By AARON HECHT, *Pres.*

State of Mass., County of Essex, ss:

On this tenth day of August, 1912, before me personally appeared W. W. Hodges, to me known and known to me to be the secretary and treasurer of the Thomson Electric Welding Co., one of the corporations named in and who executed the foregoing instrument, who being by me duly sworn, stated that he was the Secretary and Treasurer of the said corporation, that the seal affixed to the foregoing instrument was the seal of said corporation, and was affixed thereto by order of the Board of Directors of the said corporation and that he subscribed his name thereto as said Secretary and Treasurer by the like order.

H. MORRIS KELLEY,
Notary Public.

State of New York, County of New York:

On this 20th day of August, 1912, before me personally appeared Aaron Hecht, to me known and known to me to be the President of the American Electric Welding Co., one of the corporations named in and who executed the foregoing instrument, who being by me duly sworn, stated that he was the President of the said corporation, that the seal affixed to the foregoing instrument was the seal of said corporation, and was affixed thereto by order of the Board of Directors of the said corporation, and that he subscribed his name thereto as President by the like order.

EDWIN SEGER,

(Seal)

Notary Public for Kings County.
Certificate filed in New York County.
Commission expires March 30, 1913.

(N. E. F.)

DEFENDANT'S EXHIBIT AGREEMENT OF JUNE 10, 1914, BETWEEN
THOMSON ELEC. WELDING CO. AND AMERICAN ELEC.
WELD. CO.

AGREEMENT.

This agreement made in triplicate this (tenth) day of (June), 1914, by and between the Thomson Electric Welding Company, a corporation organized and existing under the laws of the State of Mass., and having its principal place of business at Lynn, in the Commonwealth of Massachusetts, hereinafter called *Thomson Company*, and the American Electric Welding Company, a corporation organized and existing under the laws of the State of New York, hereinafter called *American Company*, parties of the first part, and the National Enameling & Stamping Co., a corporation organized and existing under the laws of the State of New Jersey, and carrying on business in the City, County and State of New York, hereinafter called *National Company*, party of the second part. Witnesseth:

Whereas Thomson Company and American Company entered into an agreement on August 3, 1912 whereby American Company obtained a certain exclusive license from Thomson Company under all the patents of the United States that it then owned or might thereafter acquire pertaining to the welding of metal plates over their plane surfaces by electricity, the union being effected in spots by the passage of the current from plate to plate, or to articles produced by such process, to use and to license others to use the machines and processes of said patents in the manufacture of metal cooking utensils, metal hollow and table ware, metal house ware, metal cans and articles of similar character, whether tinned, galvanized or japanned, or finished in any other manner, and to make, use and sell and to license to others to make, use and sell metal cooking utensils, metal hollow and table ware, metal house ware, metal cans and articles of a similar character embodying the inventions, or any of them, described and covered in and by said patents; and

Whereas National Company and Eisenhutte Silesia Aktien Gesellschaft, a corporation organized and existing under the laws of Germany, hereinafter called *Silesia Company*, entered into an agreement on the 31st day of December, 1904, by which agreement National Company was to obtain from Silesia Company certain rights with relation to an invention of Johann Harmatta for which an application for Letters Patent of the United States had been filed on December 3, 1903, Serial No. 183,677, upon which application Letters Patent of the United States No. 1,046,066 were granted on December 3, 1912 to Thomson Company as assignee of said Harmatta; and

Whereas Thomson Company and Silesia Company entered into an agreement on April 3rd, 1912 whereby Silesia Company, representing that it owned or controlled the said Harmatta application, agreed to cause the same to be assigned to the Thomson Company and also to assign to Thomson Company all its rights under its said agreement with National Company; and

Whereas Thomson Company and American Company have heretofore asserted and now assert that the said agreement between National Company and Silesia Company is null and void, whereas National Company has asserted that said agreement is good and valid; and

Whereas it is the desire of Thomson Company and American Company that American Company acquire all rights, if any, that National Company may have in and under said Harmatta patent, including all rights it may have to sue and recover for past infringement of said Harmatta patent and National Company desires to obtain a certain release and license under this and other patents as hereinafter more particularly specified.

Now, Therefore, for and in consideration of the premises and in further consideration of the mutual benefits and advantages accruing to the parties hereto by reason of the covenants and conditions of this agreement, it is mutually agreed as follows:

1. The aforesaid agreement between the National Company and Silesia Company is hereby cancelled by mutual consent and the same shall be without force and effect hereafter for any purpose and all rights that National Company may have had under said agreement, including the right to sue for and recover profits and damages or other recoveries from any infringers of said Harmatta Patent, are hereby assigned and transferred and set over to American Company and its successors and assigns.

2. Thomson Company and American Company hereby grant and each of them hereby grants to National Company a full and complete release from any claim that they or either of them may have against National Company for the infringement of any letters patent of the United States pertaining to the welding of metal plates over their plane surfaces by electricity, the union being effected in spots by the passage of the current from plate to plate, or against the customers of National Company by reason of their use or sale of articles obtained from National Company, and the said Thomson Company and American Company hereby grant and each of them hereby grants to the National Company a full and complete release from any and all claims, demands and causes of action arising out of, or which but for the covenants herein contained might at any time hereafter accrue under, the aforesaid contract between Silesia Company and National Company in favor of Silesia Company, its successors and assigns, against National Company.

3. American Company and Thomson Company, and each of them, hereby grants to and confers upon National Company, and its successors in business, a non-transferable license, under all pat-

ents pertaining to the welding of metal plates over their plane surfaces by electricity, the union being effected in spots by the passage of the current from plate to plate, owned or controlled in whole or in part by Thomson Company and American Company, both or either of them, or under which American Company, is licensed, including all patents referred to in the aforesaid agreement between Thomson Company and American Company, dated August 3, 1912, and under all other patents relating to the aforesaid art heretofore or hereafter acquired or controlled by them or either of them in whole or in part, including all patents for improvements on the inventions covered by any of the patents hereinbefore referred to, to use any patented machines, including those which the National Company now has in use, covered by such patents or any of them, and to use any patented process or processes covered by the said patents or any of them, in the several factories of National Company, including any factories hereafter acquired by it, in the manufacture of its metal cooking utensils, metal hollow and table ware, metal house ware, metal cans and articles of a similar character whether tinned, galvanized or japanned, or finished in any other manner, and to make or have made for it said patented machines for said use, and to make, use and sell said utensils, wares, cans and articles, the license hereby granted to and conferred upon National Company to continue to the full end of the term of all the patents hereinbefore referred to under which this license is granted, and of any extensions thereof.

4. And said Thomson Company and American Company hereby grant and each of them hereby grants to and confers upon National Company, a non-transferable license under the aforesaid Harmatta patent for the full term of said patent or any extensions thereof, to make, use or have made for it any machine covered by said patent, and to use the process covered thereby in the several factories of National Company, including those that may be hereafter acquired by it, for the manufacture of any products whatsoever of National Company, and to make, use and sell said products. The aforesaid license from Thomson Company for the manufacture and sale by National Company under the Harmatta patent of any products other than metal cooking utensils, metal hollow and table ware, metal house ware, metal cans and articles of a similar nature, whether tinned, galvanized or japanned, or finished in any other manner, is, however, subject to the rights heretofore granted by Thomson Company to the Universal Electric Welding Company.

5. No royalty shall be paid by National Company to Thomson Company and American Company or to either of them, or to the respective successors or assigns of either of them, for or in consideration of the license hereby granted; nor shall National Company be required to pay to said Thomson Company and American Company, or to either of them, or to the successors or assigns of either of them, any consideration whatsoever other than that speci-

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fied in the first paragraph hereof, for any right, license or benefit granted to, conferred upon or acquired by National Company hereunder.

IN WITNESS WHEREOF, the parties hereto have duly executed this instrument by the hands of their respective offices, thereunto duly authorized, and have caused their respective corporate seals to be attached thereto.

THOMSON ELECTRIC WELDING CO.,
W. W.

By H. H. HODGES, *Treasurer*.

AMERICAN ELECTRIC WELDING CO.,

By AARON HECHT, *President*.

NATIONAL ENAMELING & STAMPING CO.,

By F. A. W. KIECKHOFFER, *President*.

State of Massachusetts, County of Suffolk, ss:

On this (11th) day of (June) 1914, before me personally appeared (W. W. Hodges) to me known and known to me to be the (treasurer) of the Thomson Electric Welding Company, the corporation named in and which executed the foregoing instrument, who being by me duly sworn, stated that he was the (treasurer) of the said corporation, that the seal affixed to the foregoing instrument was the seal of said corporation, and that he was duly authorized to affix said seal to said instrument, for the purpose therein stated, and that he subscribed his name thereto as said (treasurer), by like authority.

HARRISON F. LYMAN,

Notary Public.

State of New York, County of New York, ss:

On this (10) day of (June), 1914, before me personally appeared (Aaron Hecht) to me known and known to me to be the (President) of the American Electric Welding Company, the corporation named in and which executed the foregoing instrument, who being by me duly sworn, stated that he was the (President) of the said corporation, that the seal affixed to the foregoing instrument was the seal of said corporation, that he was duly authorized to affix said seal to said instrument for the purpose therein stated, and that he subscribed his name thereto, as said (President), by like authority.

ALBERT FAHNER,

Notary Public # 1052, New York County.

State of New York, County of New York, ss:

On this (10th) day of (June,) 1914, before me personally appeared (F. A. W. Kieckhofer) to me known and known to me to be the (President) of the National Enameling & Stamping Co., the corporation named in and which executed the foregoing instrument, who being by me duly sworn, stated that he was the (President)

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312 Agreement Between Thomson Co. and American Co.

of the said corporation, that the seal affixed to the foregoing instrument was the seal of said corporation, that he was duly authorized to affix said seal to said instrument for the purpose therein stated, and that he subscribed his name thereto as said (President), by like authority.

WM. E. FORD,

Notary Public No. 100, Kings County, N. Y.

Certificate filed in New York County

(No. 22)

My Commission expires March 30, 1915.

(N. E. F.)

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DISTRICT COURT OF THE UNITED STATES
EASTERN DISTRICT OF MICHIGAN,
SOUTHERN DIVISION.

THOMSON SPOT WELDER COMPANY,
Plaintiff,

v.
FORD MOTOR COMPANY,
Defendant.

In Equity
On Harbatta Patent
No. 1,046,666.

DEFENDANT'S EXHIBIT A-1.

May 7, 1918.

Feb. 28, 1917.

Mr. J. H. Garvell,
American Optical Paint Co.,
Philadelphia, Pa.

My Dear Sir:

The committee of which I have the honor of being Chairman has accumulated some very important legal opinions regarding the validity of the Harbatta spot welding patent.

The committee has in its possession an original spot welder used in 1901, and also affidavits of a number who have worked and used the machine, saying nothing of a large volume of important matters bearing on the subject, - all of which is open to the inspection of those users of electric welding machines that care to contribute to the further work now in progress.

One of our members, Mr. Robert A. Brownigan, Manager of Patent Department, National Automobile Chamber of Commerce has given in your name, with the remarks that he understands that you have in your possession valuable information in connection with the spot welding patents. The writer will be very glad, indeed, to exchange information, and sincerely hopes that you may write him, outlining your position in the matter.

Under this cover I am handing you the form letter which we are sending out, together with application blank for contribution, and an abstract from the minutes of our meeting on the 21st.

Very respectfully yours,

WHA:MFL

Chairman.

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DISTRICT COURT OF THE UNITED STATES
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

THOMSON SPOT WELDER COMPANY,
Plaintiff,
vs.
FORD MOTOR COMPANY

In Equity
On Harmatta Patent
No. 1,046,066.

DEFENDANT'S EXHIBIT A-1.

May 7, 1918.

Feb. 25, 1917.

Mr. J. E. Garvell,
American Chemical Paint Co.,
Philadelphia, Pa.

My dear Sir:

The committee of which I have the honor of being Chairman has accumulated some very important legal opinions regarding the validity of the Harmatta spot welding patent.

The committee has in its possession an original spot welder used in 1901, and also affidavits of a number who have viewed and used the machine, saying nothing of a large volume of important matters bearing on the subject, - all of which is open to the inspection of those users of electric welding machines that care to contribute to the further work now in progress.

One of our members, Mr. Robert A. Brannigan, Manager of Patent Department, National Automobile Chamber of Commerce has given in your name, with the remarks that he understands that you have in your possession valuable information in connection with the spot welding patents. The writer will be very glad, indeed, to exchange information, and sincerely hopes that you may write him, outlining your position in the matter.

Under this cover I am sending you the form letter which we are sending out, together with application blank for contribution, and an abstract from the minutes of our meeting on the 6th.

Very respectfully yours,

Chairman.

RM:WFL

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AMERICAN CHEMICAL PAINT COMPANY

B. C. TILGHMAN, PRESIDENT
W. E. TAYLOR, VICE PRESIDENT
J. H. GRAVELL, TREASURER
C. B. SHOWELL, SECRETARY

PROCESSES AND MATERIALS FOR PREPARING METALS FOR PAINTING

BRANCH OFFICE
KERR BUILDING
DETROIT, MICH.
DU COMB, REP.

GENERAL OFFICES AND WORKS
1118-26 S. 11TH STS.

PHILADELPHIA, PA. March 2, 1917.

DIST. CT. OF THE U. S.
E. DIST. OF MICHIGAN
SOUTHERN DIVISION

*W. G.
S. S.*

THOMSON SPOT WELDER CO., Plaintiff
v.

May 7, 1918. FORD MOTOR COMPANY, Defendant.
In Equity on Harmatta Patent #1046066.

DEFENDANT'S EXHIBIT A-2.

The Welding Patents Investigating Committee,
Room 700 Bankert Bldg.,
Canton, Ohio.

Gentlemen:-

I have your letter of February 28th and in reply beg to advise that Mr. R. S. Garrick a representative of Mr. Lee of Chicago, who was present at the Canton Meeting, called on me the day before yesterday.

I explained to Mr. Garrick in great length my position in the matter and what I thought would be necessary to win a suit. Mr. Garrick will transmit my ideas in person to Mr. Lee in Chicago, who will in turn take the matter up with you.

Thanking you for keeping me posted in these matters, I beg to remain

Very respectfully yours,

American Chemical Paint Company,

JHG/ES

J. H. Gravel
Was
Met at the kitchen
Phil & Co.

MAR 5 1917

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AMERICAN CHEMICAL PAINT COMPANY

B. C. TILGHMAN, PRESIDENT
H. E. TAYLOR, VICE PRESIDENT
J. H. GRAVELL, TREASURER
C. B. SNOWELL, SECRETARY

PROCESSES AND MATERIALS FOR PREPARING METALS FOR PAINTING

BRANCH OFFICE
KERR BUILDING
DETROIT, MICH.
W. C. DU COMB, REP.

GENERAL OFFICES AND WORKS
1118-26 S. 11TH STS.

PHILADELPHIA, PA. March 9, 1917.

DISTRICT COURT OF THE UNITED STATES
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION.

THOMSON SPOT WELDER CO., Plaintiff,

v.

FORD MOTOR COMPANY, Defendant.

In Equity on Harmatta Patent No. 1,046,063

DEFENDANT'S EXHIBIT A-3.

Mr. H. C. Mulligan, Chairman
The Welding Patents Investigation Committee
Room 700 Renkert Bldg.,
Canton, Ohio.


Dear Sir:-

We were represented at the Canton meeting by our Mr. J. H. Gravel and take pleasure in enclosing our check for \$10.00 as our subscription to your committee.

Our Mr. J. H. Gravel can no doubt be of considerable assistance to you and we believe he is now in touch with Mr. Lee of Chicago, relative to this matter.

Very truly yours,

American Chemical Paint Co.,

B. C. Tilghman Pres.


JHG/HS

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DISTRICT COURT OF THE UNITED STATES
EASTERN DISTRICT OF MICHIGAN.
SOUTHERN DIVISION.
THOMSON SPOT WELDER COMPANY, Plaintiff,
v.
FORD MOTOR COMPANY, Defendant.
In Equity on Harmatta Patent no. 1,046,066.

DEFENDANT'S EXHIBIT A-4.

W.F.
81.5x
MAY 7, 1918.

March 12, 1917.

Mr. B.C. Tilghman, Pres.,
American Chemical Paint Co.,
Philadelphia, Penn.

Dear Sir:-

In behalf of the Welding Patents
Investigating Committee, we wish to thank
you for your contribution of \$10.00, and
attach hereto receipt.

We thank you for your information
relative to Mr. Gravell.

Yours very truly,

Chairman.

2036

AMERICAN CHEMICAL PAINT COMPANY

B. C. TILGHMAN, President
H. E. TAYLOR, Vice President
J. H. GRAVELL, Treasurer
C. B. SHOWELL, Secretary

PROCESSES AND MATERIALS FOR PREPARING METALS FOR PAINTING

GENERAL OFFICES AND WORKS
1118-26 S. 11TH STS.

PHILADELPHIA, PA.

BRANCH OFFICE
RENR BUILDING
DETROIT, MICH.
W. C. DUCOMB, MGR.

DISTRICT COURT OF THE UNITED STATES
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION
THOMSON SPOT WELDER COMPANY, Plaintiff

W. S.
8/5x
May 7, 1918.

v.
FORD MOTOR COMPANY, Defendant.
In Equity on Harretta Patent No. 1,046,066.

DEFENDANT'S EXHIBIT A-5.

May 22, 1917.

The Welding Patents Investigating Committee,
700 Renkert Bldg.,
Canton, O.

Gentlemen:-

Enclosed please find our check for \$20.00 in accordance
with your last communication, as we have one spot welding machine in
this office.

Very truly yours,

American Chemical Paint Co.

B. C. Tilghman Pres.

BCT/RS

Enc.

DISTRICT COURT OF THE UNITED STATES
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION.

2037

THOMSON SPOT WELDER COMPANY, Plaintiff,

v.

FORD MOTOR COMPANY, Defendant.

In Equity on Harbatta Patent No. 1,046,066.

DEFENDANT'S EXHIBIT A-C.

May 28, 1917.

May 7, 1918.

American Chemical Paint Co.,
1126 South Eleventh St.,
Philadelphia, Pa.

Gentlemen:-

In acknowledging receipt of your check for Twenty (\$20.00) Dollars, on the basis of \$20.00 per machine, the Committee wishes to express their appreciation of your hearty co-operation and enclosed herewith please find receipt for above amount.

Yours very truly,

Chairman,

Per

Rec. Sec.

2038

AMERICAN CHEMICAL PAINT COMPANY

S. C. TILGHMAN, President
H. E. TAYLOR, Vice President
J. H. GRAVELL, Treasurer
E. B. SHONWELL, Secretary

PROCESSES AND MATERIALS FOR
PREPARING METALS
FOR PAINTING

BRANCH OFFICE
KERR BUILDING
DETROIT, MICH.
W. C. DU COMB, REP.

DIST. CT. OF THE U.S.

E. DIST. OF MICHIGAN

S. DIVISION.

THOMSON SPOT WELDER COMPANY, Plaintiff, v.

FORD MOTOR COMPANY, Defendant.

GENERAL OFFICES AND WORKS

1118-26 S. 11TH STS.

PHILADELPHIA, PA.

October 22nd, 1917.

In Eq. on Har-

matta Patent

No. 1,046,066.

May 7, 1918.

DEFENDANT'S EXHIBIT A-7.

The Welding Patents Investigation Committee,
Canton, Ohio.

Gentlemen:-

We have your communication of October 18th, and beg
to advise that we expect to have a representative at your meet-
ing.

Very truly yours,

American Chemical Paint Co.

ES

H. Schukraft

2039

AMERICAN CHEMICAL PAINT COMPANY

B. C. TILGHMAN, PRESIDENT
H. E. TAYLOR, VICE PRESIDENT
J. H. GRAVELL, TREASURER
J. S. SHOWELL, SECRETARY

PROCESSES AND MATERIALS FOR
PREPARING METALS
FOR PAINTING

BRANCH OFFICE
KERR BUILDING
DETROIT, MICH.
W. C. DU COMB, MGR.

GENERAL OFFICES AND WORKS
1118-26 S. 11TH STS.
PHILADELPHIA, PA.

SEP - 5 1917

RECEIVED
SEP - 5 1917

September 1st, 1917.

W. S.
S. S.
May 7, 1918.

DISTRICT COURT OF THE U.S.
E. DISTRICT OF MICHIGAN
SOUTHERN DIVISION.
THOMSON SPOT WELDER CO., Plaf.

v.
FORD MOTOR COMPANY, Defendant
In Equity on Harman Patent #1,046,000

The Federal Machine & Welder Co.
140 S. Dearborn St.
Chicago, Ill.

DEFENDANT'S EXHIBIT No. 8.

Attention R. N. Lounsbury

Gentlemen :-

Believing it is well to help along the cause we have filled in the subscription blank for \$250.00 representing as we understand it one share of stock and the balance in bonds, and are enclosing our check for \$10.00 being 10% of the subscribed stock.

We understand the balance of the stock is to be paid for on request of the Board of Directors and that the bond will be paid for at the time of the tender of said bond.

Very truly yours,

American Chemical Paint Co.

Enc.

H. Schuckroff

Subscription returned
T.R.S.

2040

DISTRICT COURT OF THE U. S.
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION.
THOMSON SPOT WELDER COMPANY, Plaintiff

v.
FORD MOTOR COMPANY, Defendant.
in Equity on Harbatta Patent No. 1,546,666.

DEFENDANT'S EXHIBIT-A-9.

W. J. S.
S. H. S.
May 7, 1916.

September 5, 1917

American Chemical Paint Co.,
2118 S. 11th Street,
Philadelphia, Pa.

Gentlemen: Attention Mr. H. Schuckert

I am in receipt of your favor of the
1st instant, enclosing subscription in the
amount of \$250.00 to the Federal Machine &
Welder Company, together with check for \$10.00.

As there seems to be some question over
the status of your Mr. Cravell with reference to
the spot welder controversy, and as to whether
your company is a bona fide owner and user of
welding machines, it has been decided not to
accept your subscription, at least until this
matter can be cleared up.

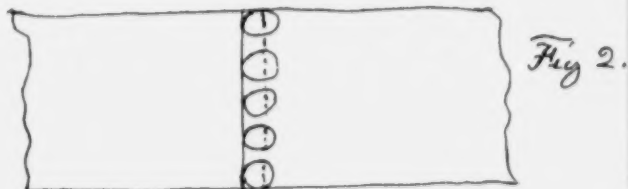
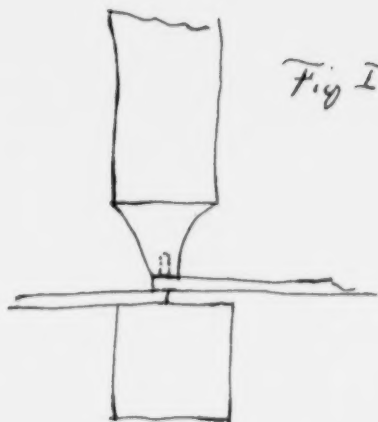
I, therefore, return your subscription
blank and check.

Yours very truly.

RRG:MK

Chairman Committee on Organization

A.P. RIETZEL
THOMSON SPOT WELDER COMPANY
vs.
FORD MOTOR COMPANY
Defendant's Exhibit
Rietzel Sketch





2042

No 52



Certified to be a true and correct copy
of original Application for Patent number 108990,
filed December 1st, 1908, by Johann Harmatta, for
"Electric Welding."

As Witness the seal of the
Patent Office here affixed at
the City of Ottawa in the
Dominion of Canada this
28th day of April
in the year of our Lord one
thousand nine hundred and
nineteen.

W. J. Lynch
for Director General of Patents

Serial No. 108,990. Filed Dec. 1, 1903. Subject: Electric Welding. Case 1. Inventor, Johann Harmatta. 1st Report, 1241-14-4-04. 2nd Report, 1430-25-2-05. 3rd Report, 7 Jan. 11, 1906. 4th Report, 316, 26/xl., 1906. Abandoned, Nov. 30, 1907.

F. D. WITHROW,
Examiner.

CASE I.

Patent Office, Canada, Dec. 1, 1903.

APPLICATION FOR CANADIAN PATENT.

Petition with Power of Attorney.

To the Commissioner of Patents,
Ottawa.

The petition of Johann Harmatta, Engineer, a subject of the King of Hungary, residing at Szepesváralja, in the Kingdom of Hungary, sheweth:

That he has invented new and useful "Improvements in Electric Welding," not known or used by others before his invention thereof, and not being in public use or on sale, with his consent or allowance as such inventor for more than one year previous to his application for a patent therefor, in Canada.

Your petitioner, therefore, prays that a patent may be granted to him for the said invention, as set forth in the specification in duplicate relating thereto, and for the purpose of the Patent Act, your petitioner elects his domicile in the City of Montreal, Province of Quebec.

Your petitioner hereby appoints Messrs. Marion & Marion, of Montreal, Province of Quebec, his attorneys with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to sign the drawings, to receive the patent, and to transact all business in the Patent Office connected therewith.

Signed at Budapest, this 5th day of November, 1903.

JOHANN HARMATTA.

Witnesses:

DR. ALEXANDER KAUFFMANEY.

CARL BEIKER.

DECLARATION.

I, Johann Harmatta, Engineer, a subject of the King of Hungary, residing at Szepesváralja in the Kingdom of Hungary, declare and say that I verily believe that I am the inventor of the new and useful "Improvements in Electric Welding," described

and claimed in the specification relating thereto and for which I solicit a patent by my petition dated fifth day of November, 1903, and I further say that the same has not been patented to me, or to others with my knowledge or consent in any country, and I further say that the several allegations contained in the said petition are respectively true and correct.

JOHANN HARMATTA.

Declared before me at Budapest, this 5th day of November, 1903.

J. DRULET,
His Britannic Majesty's Consul,
Budapest.

Stamp.

SPECIFICATION.

E. M. D., M. F. S.

To All Whom It May Concern:

Be it known that I, JOHANN HARMATTA, Engineer, a Subject of the King of Hungary, residing at Szepesváralja, in the Kingdom of Hungary, have invented new and useful "IMPROVEMENTS IN PROCESSES OF ELECTRIC WELDING" and I do hereby declare that the following is a full, clear and exact description of the same.

The subject of my invention is a process of welding thin sheet metal by means of electricity.

As is well known it is impossible, by means of the ordinary methods of electric welding, to produce a really sound seam between very thin metal sheets, from about two millimeters in thickness downward, that is to say, a seam which is perfect at every part, without there being any fusing or burning away of the material being welded.

C The reason of this I have ascertained to be as follows:

On the ordinary systems of welding it is the practice at once to lead a current to the objects to be welded (such as iron bars, hoops, chain links, or the like) whereby, in consequence of the thinner or thicker layer of air, which is always present between the two objects, vigorous sparking occurs. There is, so to say, a line of sparks or an arc formed, which persists until the objects being welded have been brought to welding heat by the electric current, whereupon they are finally pressed together to effect the desired union.

This well-known method, therefore, does not really differ from the ordinary method of welding at the fire, except that instead of the gases of combustion of the fuel, the electric current is employed to heat the bodies to be welded. Once the welding heat is reached, however, the final union of the bodies in either case is effected by mechanical pressure (pressing or hammering).

For the purpose of enabling my invention to be more readily understood, I will make reference to the accompanying drawing, in which

Fig. 1 is a sectional view illustrating the electric welding of two comparatively thick sheets on the ordinary system.

Fig. 2 is a like view showing what occurs when one of the sheets is thin.

B. Fig. 3 is a section of portions of two thin sheets with an air-gap between them.

Fig. 4 is a sectional view illustrating the employment of my new process in welding thin sheets.

Fig. 5 is a like view showing the welding of the overlapping ends of two pieces of sheet metal.

As Fig. 1 shows, the electrodes *a b* lie opposite each other, the sheets *1, 2* to be welded by the ordinary process being located between them. The sheets lie loosely upon each other, that is to say they are not artificially pressed together, and the consequence is that they are separated by a layer of air *3*.

If now the electric circuit is completed through the two electrodes and the sheets, and if the layer of air *3* is sufficiently thick, that is to say, the air resistance sufficiently great, there will be no sparks or arc formed between the two plates for the time being. If, however, the sheets are approached, as is unavoidable for the purpose of final union by pressing, hammering, etc., as already explained, a time must arrive when the air resistance between the two sheets to be welded is no longer sufficiently great to prevent equalization of the electricity at the two poles. Between the sheets, therefore, an arc or a line of sparks will be formed, and will continue until intimate contact has taken place between the two sheets. If, as is shown in Fig. 1, the sheets are relatively thick, the arc which is formed will be of no consequence, since the slight fusing away at *4* caused by the arc, or the sparks, will not be sufficiently deep to penetrate the thick material. In fact, there is even an advantage in the action of the sparks or arc in the case in question, since the cross section of the material is altered, whereby the two sheets are, as it were, scarfed at the place of welding, that is B. to say, the two cross sections are diminished at the seam to approximately the thickness of a single sheet, so that under certain conditions the two welded sheets have the same thickness at the joint as a single sheet.

The case is altogether other when two thin sheets or articles are to be welded, or when a very thin object is to be welded to a thicker one, such as is shown, for instance, in Fig. 2. In this figure it is assumed that the thick sheet *2* (which, as explained with reference to Fig. 1 is thick enough not to be penetrated completely by the arc at the point *4*) is to be electrically welded to a very thin plate *5* by the ordinary process as above explained.

On the approach of the objects *2, 5*, at a certain moment, in consequence of the penetration of the layer of air *3*, fusing away takes

place at 4, owing to the arcs or sparks, and this fusing will extend to such depth that, although, as above explained, not injurious in the case of the sheet 2, it causes the thin sheet 5 to be completely perforated or burnt through. Thus the ordinary process of welding by means of an arc is quite impracticable with thin sheets as represented in Figs. 2-5.

The essential feature of my invention is that in welding thin C. sheets from about two millimeters in thickness downward the formation of such an arc, or sparking distance, which proves so disastrous, is wholly avoided, whereby a perfectly sound welded joint between such bodies, or between a very thin body and a thicker object, is attained.

For the purpose of preventing the formation of the injurious arc, that is to say, the sparking distance, I first submit the superposed metal objects to be welded 5, 6 (Figs. 4 and 5) to a certain B. pressure, the amount of which will depend upon the nature of the said objects. This pressure I effect by means of the electrodes *a b* (Figs. 4 and 5) themselves, or with the aid of other suitable means. The purpose of this pressure is to bring into intimate contact the parts of the metal to be united, so that the layer of air between them is as far as possible expelled. In this manner the two parts to be welded are, as it were, mechanically connected to form a single homogeneous body. This is of great importance when the two very thin sheets are to be welded together. For, as is well known, thin sheets have always a more or less wavy form, so far as they have not been straightened in the process of manufacture, so as to present a surface which is practically quite flat, such as is the case with thick sheets. Such thin sheets, therefore, unless submitted to mechanical pressure never lie close upon one another; on the contrary, in consequence of the waved form, large air-gaps 3 (Fig. 3) are left between them, so that if a current were led through them, it would aid sparking and the formation of arcs.

After the two metal objects have, therefore, been prepared in this way, that is to say, by the application of mechanical pressure caused to lie closely upon each other, without any air-gap, between them, the electric circuit is closed, the mechanical pressure being still maintained.

At the place where the electrodes *a b* exert pressure, therefore (Figs. 4 and 5), that is to say, where the current is able to flow through the bodies to be welded without having to pass through a layer of air and form sparks, the metal is heated to welding heat. Immediately this temperature is reached, the continuous pressure effects the desired union, that is to say, welding of the two metal objects 5 and 6, without injury by perforation or burning, in B. the manner explained, having taken place, even if the sheets are extremely thin. It should be remarked that the pressure to be exercised on the bodies before and during welding, must be

selected according to the thickness of the sheets, and can be adapted to suit the condition of the bodies for the time being. Thicker sheets or objects do not require so much pressure as thin ones because, as already explained, they have a more even, uniform shape and therefore when laid upon each other can be readily closed together, that is to say, pressed so that no injurious air-gap is formed.

Since the essential condition is, that the two metal objects to be united are firmly pressed together before welding, in order that complete penetration of the thin body by the electric current may be avoided, it is obvious that with this process not only two equally thin sheets, but a very thin sheet and a thicker metal object may be welded without danger of the former being burnt through.

Naturally the required superficial pressure may be exerted by only one electrode, or by both the electrodes.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:

The herein described process of electrically welding thin metallic sheets, which consists in applying electrodes on the metallic sheets at the point at which the joint is to be formed, then forcing the electrodes on the sheets sufficiently to press the same intimately together at the point at which they are to be welded, then heating the metallic sheets by passing an electric current through said electrodes and through the sheets, and maintaining the pressure of said

electrodes on the sheets during the passage of the current E. through the electrodes and the sheets.

Signed at Budapest, Hungary, this 5th day of November, 1903, in presence of two witnesses.

JOHANN HARMATTA.

DR. ALEXANDER KAUFFMANEY.
CARL BEIKER.



Patent Office, Canada, Dec. 1, 1903.

MARION & MARION,
Engineers and Patent Attorneys.
New York Life Building,
Montreal,
Nov. 30, 1903.

Hon. Commissioner of Patents,
Ottawa, Ont.

Sir,
Enclosed please find the sum of \$20.00, being amount of government fees on application as follows:

Inventors	Title of Inventions	Amounts.
Johann Harmatta	Electric Welding (Case I)	\$20

All documents in connection with above application are being sent you today under separate cover.

Very respectfully,

MARION & MARION,
Attorneys.

Department Agriculture, Dec. 1, 1903.

PATENT OFFICE, CANADA.

Received from Johann Harmatta
\$20.00 No. 110,588.

Patent Fee.

F. C. CHITTICK, p.
Accountant.

Dominion of Canada,
Department of Agriculture,
Patent Office,
Ottawa, December 4, 1903.

All communications should be addressed to "The Commissioner of Patents," "Ottawa." When writing on this subject refer to No. 108,990.

Sir,

I am directed to acknowledge the receipt on the 1st instant of the Petition, Oath, Specifications and Drawings, applying for a Patent in favour of Johann Harmatta, for "Electric Welding" (Case 1) and to inform you that the application will be taken up for examination in its order.

I have the honour to be,

Sir,

Your obedient servant,

W. J. LYNCH,
Chief Clerk.

To Messrs. Marion & Marion,
Montreal, Que.

Patent Office,
Canada,
Ottawa, April 14, 1904.

Johann Harmatta, Esq., per Messrs. Marion & Marion, N. Y. Life Building, Montreal, Que.

Please find papers herewith enclosed, and below a communication from the Examiner in charge of your application, Serial No. 108,990 for Electric Welding.

GEO. F. O'HALLORAN,
Deputy Commissioner of Patents.

Claims for a process and for the apparatus used in the performance thereof must be presented in separate applications.

Reference is made to U. S. P. 347140 to Thomson—1886; 347141 same—375022—Thomson—1887.

Sgd. A. CAMPBELL.

Any communication respecting this application should give the serial number and should be addressed to "The Commissioner of Patents, Ottawa."

Patent Office, Canada, May 13, 1904.

MARION & MARION,
Patents and Patent Causes.
Montreal, Can., and Washington, D. C.,
U. S. A.
New York Life Building,
Montreal, May 10, 1904.

AMENDMENT.

In the Canadian Patent Office, Application of Johann Harmatta, Electric Welding, Serial No. 108,990, Filed December 1, 1903.

Hon. Commissioner of Patents,
Ottawa, Ont.

Sir:

We return herewith the duplicate specification and drawings amended. We also send you a second copy of the new specification with claims, and an extra copy of the new claims. We send also one drawing on cardboard of new figures 1 to 4 inclusive, and a copy on tracing cloth of these figures. We attach to the present letter a

blue-print of the original drawings filed, where you will find
A. that we have erased original figures 4 and 6 and re-numbered the other figures. The alterations to the original drawings are indicated in red on the blue-prints, and we hereby authorize and request the Patent Office to make similar corrections on the drawings retained.

It is hoped that the application as now amended will be found allowable, and an early issue of the patent is respectfully requested.

Respectfully submitted,

MARION & MARION,
Attorneys.

M/M.

To all whom it may Concern:

Be it known that I, Johann Harmatta, Engineer, a subject of the King of Hungary, residing at Szepesvaralja, in the Kingdom of Hungary, have invented new and useful "Improvements in Electric Welding," and I do hereby declare that the following is a full, clear and exact description of the same:

My invention relates to a process of and apparatus for manufacturing metal articles of all kinds, in particular those of the thinnest sheet metal, by direct electric welding. The new process consists in one of the electrodes (or both of them) not only serving to feed the current, but also being employed for exercising a more or less strong pressure either before and during the period of supplying the electric current, or only at the moment of this supply, at the place at which the welding is to be done. The member which feeds the electricity is thus at the same time the tool, and in this manner the most favorable conditions of working possible are secured, since, as is well known, in really effective welding processes the place of welding brought to the proper temperature must be at once well hammered or pressed in order that the welding may be thorough.

According to none of the present known electric welding processes are the articles to be welded firmly pressed together during the welding operation by one or both electrodes, for the purpose of favoring welding. Hitherto either no pressure has been exerted at all, or it has been exercised at a certain distance from the place of welding, or at all events not centrally direct upon the electrodes pressing on the place to be heated. In short, hitherto direct electric welding pressure has never been exercised by means of the

electrodes located in the direction of the current directly above the surface or point being welded.

For carrying out the new process various apparatus may be employed, as the necessary pressure may be exerted at the place suitable for producing or transmitting pressure; *e. g.*, with a press of welding by the aid of any of those technical means which are either direct or by means of indirect transmission by levers. Or it may be by means of simple hand levers, that is to say, by means of direct or indirect manual power.

In the accompanying drawing

Fig. 1 is a view illustrating the welding of two metal sheets of equal thickness, intermittently or at certain spots only.

Fig. 2 is a front elevation and

Fig. 3 a side elevation of a device which may be employed for continuous welding, the pressure being exerted by roller electrodes, whereby the advancing series of single points of the seam to be welded is united to a whole with a minimum consumption of current.

Fig. 4 illustrates the method of welding the longitudinal seam of a cylindrical or conical hollow article according to my new process.

Fig. 5 is a side elevation of a welding device (also illustrated in part in Fig. 1) according to which the pressure is exercised by pin shaped electrodes, the form of which may be suited to the particular purpose in view, and which may be adapted to work on the smallest possible surface of contact.

Fig. 6 shows two forms which may be adopted for the ends of the contacting electrodes.

As Fig. 1 shows, the two sheet metal or other bodies, the edges of which lie upon each other, are introduced between the two electrodes *a b*. Of the latter the one, somewhat prior to welding or only during the welding operation, is pressed upon the other, as the arrow shows; or both electrodes may be caused to exert pressure on the subjects to be welded.

For continuous welding of longitudinal, cross and circular seams, the device shown in Figs. 2 and 3 of the drawing may be advantageously employed.

In the two conductors *c d* (Fig. 3), forked members *e f*, making intimate contact with the conductors, are introduced, each furnished with a removable roller electrode *g* and *h*; or, if desired, only the lower roller electrode, for instance, may be capable of being removed. Or the lower or upper electrode may be formed as movable roller and the other electrode forms a stationary conductor.

The roller *g* of the upper conductor *c* is keyed to an axis *i* carrying a spur wheel *k* to which the motion of a suitably mounted hand-wheel *l* can be transmitted by means of a spur wheel *m*. Or the hand-wheel may be mounted directly on the shaft *g*, without the use of any intermediate gear-wheels. Or the axis *i* may have on the other end also a spur or bevel wheel, or pulley or the like for driving the roller electrode *g*, should it be desired to auto-

atically advance the object being welded by means of motor power. The purpose of the hand-wheel is to accelerate or decrease the speed of rotation of the roller *g*, as may be required, and in general to actuate the roller by hand for any purpose. The axis *i* may, of course, be caused to move slower or faster in the case of mechanical power, by any other suitable means. The upper part of the fork carrying the electrode roller *g* is here shown as constituting a toothed rack *n*, in which engages a pinion *p* carried by the conductor *c* by means of a ring-holder *o*. The pinion *p* is keyed to the axis *q*, which carries a hand lever *r* at its outer end. By raising or depressing the lever *r*, the upper roller electrode *g* may be separated from or advanced towards the lower roller electrode *h*. Furthermore by raising or depressing the forked piece *f* in the conductor *d* the lower removable roller *h* may be adjusted higher or lower.

If now the ends of the objects to be welded are introduced between the two roller electrodes *g h* and the circuit closed, continuous welding may be undertaken, that is to say, an uninterrupted welded seam made, whereby the upper rotary roller electrode *g* may be pressed with any required degree of pressure upon the lower stationary (or rotary) roller electrode *h*, so that the two ends of the material to be welded are firmly connected with each other.

Instead of the objects to be welded being introduced gradually between the electrodes, the electric welding apparatus may be arranged to slide relatively to the stationary objects.

Thus if it is required to weld, for instance, sheets of metal only at particular places, the apparatus shown in Fig. 5 may be advantageously employed, the electrodes *a b* having the form of pins. The lower electrode *b* is then inserted in the conductor *d*, whilst the upper electrode *a* is carried by an arm *s* and by means of a hand-lever *t* carried by said arm *s* can be turned on the shaft *u* in such manner that the points of the electrodes *a b* approach and recede from each other. If then two superposed sheet metal ends to be welded together are introduced between the electrodes and the latter then firmly pressed together and the circuit closed, a small round, very sharply defined place of welding is caused which perfectly answers the purposes of a rivet. In this event, also, especially in the case of thin vessels which are not required to withstand great pressure, the pressure on the place of welding may at the right moment be exactly regulated or kept within the proper limits.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. The process of electric welding, consisting in employing the electrodes not only to conduct the current to the objects being welded, but also to exert a regulable pressure on the same, substantially as described.
2. An electrode apparatus for electric welding, comprising two electrodes between which the objects to be welded are introduced,

and means whereby one of the electrodes can be approachd to and receded from the other, substantially as described.

3. An electrode apparatus for electric welding, comprising two roller electrodes between which the objects to be welded are introduced, and means for pressing the electrodes to the work, substantially as described.

4. An electrode apparatus for electric welding, comprising two roller electrodes between which the objects to be welded are introduced, means for pressing the electrodes to the work, and means for rotating one or both of the rollers for the purpose of advancing the work in its path between the electrodes, substantially as described.

BLUEPRINT

TOO

LARGE

FOR

FILMING

Cancelled by letter May 10/04.

All communications should be addressed to "The Commissioner of Patents," "Ottawa." When writing on this subject refer to No. 108,990.

Dominion of Canada,
Department of Agriculture,
Patent Office,
Ottawa, May 13, 1904.

Sir,

I am directed to acknowledge the receipt of your letter of the 10th instant, with enclosure, on the subject of Johann Harmatta's Application Serial No. 108,990 for "Electric Welding," Case 1, and in reply inform you that the same has been referred to the Examiner.

I have the honour to be, your obedient servant,

W. J. LYNCH,
Chief of Patent Office.

To Messrs. Marion & Marion,
Montreal, Que.

Patent Office, Canada, Jul. 12, 1904.

MARION & MARION,
Patents and Patent Causes.
Montreal, Can., and Washington, D. C., U. S. A.,
New York Life Building,
Montreal, July 9, 1904.

AMENDMENT.

In the Canadian Patent Office, Application of Johann Harmatta,
Electric Welding, Serial No. 108,990, Filed December 1, 1903.

Hon. Commissioner of Patents,
Ottawa, Ont.

Sir:

We send you herewith two copies of new specification and three copies of new claims, also one sheet of drawings on cardboard
B. and two copies of same on tracing cloth, which please substitute for the documents now on file.

Respectfully submitted,

MARION & MARION,
Attorneys.

G./M.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. The process of electrically welding thin sheets and the like, consisting in applying pressure at the place of welding of the two superposed metallic objects to be united, for the purpose of effecting thorough superficial contact between them, and then, whilst maintaining the said pressure, heating the objects by passing an electric current through them, substantially as described.

All communications should be addressed to "The Commissioner of Patents," "Ottawa." When writing on this subject refer to No. 108,990.

Dominion of Canada,
Department of Agriculture,
Patent Office,
Ottawa, July 15, 1904.

Sir,

I am directed to acknowledge the receipt of your letter of the 9th instant, with enclosures, on the subject of Johann Harmatta's Application Serial No. 108,990 for "Electric Welding," Case 1, and in reply inform you that the same has been referred to the Examiner.

I have the honour to be, your obedient servant,

W. J. LYNCH,
Chief of Patent Office.

To Messrs. Marion & Marion,
Montreal, Que.

Patent Office, Canada, Nov. 9, 1904.

MARION & MARION,
Patents and Patent Causes.
Montreal, Can., and Washington, D. C., U. S. A.,
New York Life Building,
Montreal, November 7, 1904.

AMENDMENT.

In the Canadian Patent Office, Application of Johann Harmatta,
Electric Welding, Serial No. 108,990, Filed December 1/03.

Hon. Commissioner of Patents,
Ottawa, Ont.

Sir:

Cancel the present claims and substitute therefor the enclosed claims. Duplicate extra copies of the claims are herewith presented.

It is requested that on page 1, line 12, and on page 4, line 5, C. after "sheets" the following language be inserted—from about two millimeters in thickness downward —.

It is believed that this amendment properly limits applicant's invention with regard to known processes, and that the application is now in condition to be passed to issue.

Respectfully submitted,

MARION & MARION,
Attorneys.

G./M.

CLAIMS.

1. The process of electrically welding thin metallic sheets and the like, from about two millimeters in thickness downward, consisting in first pressing intimately together the two superposed metallic objects at the very point, in which the welding joint is to be formed, and then, whilst maintaining the intimate pressure, heating the objects by passing an electric current through them exactly at said point, in which the welding is to be effected, substantially as set forth.

2. The process of electrically welding thin metallic sheets and the like from about two millimeters in thickness downward, consisting in superposing the metallic sheets and the like, exerting on said thin sheets and the like before and during the welding operation a pressure limited to a material point, and passing for a short moment a current also limited to said material point through said thin sheets and the like, substantially as set forth.

3. The process of forming seams with thin sheets and the like from about two millimeters in thickness downward, consisting in pressing together the parts to be welded in a series of points consecutively, and, whilst maintaining the pressure in said consecutive points, passing an electric current for a short moment exclusively through said points, substantially as set forth.

All communications should be addressed to "The Commissioner of Patents," "Ottawa." When writing on this subject refer to No. 108,990.

Dominion of Canada,
Department of Agriculture,
Patent Office,
Ottawa, November 9, 1904.

Sir,

I am directed to acknowledge the receipt of your letter of the 7th instant, with enclosures, on the subject of Johann Harnatta's Application Serial No. 108,990 for "Electric Welding" (Case 1), and in reply inform you that the same has been referred to the Examiner.

Amendment Filed with letter C. Nov. 7/04.

I have the honour to be, your obedient servant,

W. J. LYNCH,
Chief of Patent Office.

To Messrs. Marion & Marion,
Montreal, Que.

Patent Office, Canada,
Ottawa, Feb. 25, 1905.

Johann Harmatta, per Messrs. Marion & Marion, Montreal.

Please find papers herewith enclosed, and below a communication from the Examiner in charge of your application, Serial No. 108,990 for "Electric Welding."

GEO. F. O'HALLORAN,
Deputy Commissioner of Patents.

Any communication respecting this application should give the serial number and should be addressed to "The Commissioner of Patents, Ottawa."

It is contended that the amended claims do not overcome the pertinency of the Thomson Patent of record, No. 347,140.

This patent described a process wherein the metal pieces to be joined are first held together by mechanical pressure devices and then while in intimate contact under such pressure an electric current is passed therethrough, exactly at the point of welding.

In Thomson's patent No. 375,022 of record initial pressure is also applied, and, whilst this pressure is maintained, the current is turned on and fusion takes place.

The thickness of the sheets to be welded is not material to the claims, as the conditions of application of the pressure and the size of the current passed is easily regulated and modified to suit the material operated upon.

A. C.

Patent Office, Canada, Nov. 16, 1905.

Johann Harmatta, c/o Marion & Marion, Montreal, Canada. "Improvements in Processes of Electric Welding," Serial No. 108,990.

Hon. Commissioner of Patents,
Ottawa.

Sir:

Responsive to the Official action of February 28, 1905, in the above entitled matter, the duplicate papers are herewith returned, with duplicate copies of the amended claims.

It is contended that the Thomson Patent of record No. 347,140 does anticipate the welding process applied for. In the patent No. 347,140 there is no question of the welding of sheets of very thin material (from about two millimeters in thickness downwards), and by his method of welding such sheets of very thin material (from about two millimeters in thickness downward) applicant solves a problem which until now was considered as quite insoluble.

The U. S. Patent No. 347,140 only speaks of the joining into one continuous length of sections of wires—as of copper and its alloys, iron, silver, gold, &c.,—by holding said sections in contact at the point of union and simultaneously passing a current of electricity of suitable strength through the joint.

D.

Similarly, in the U. S. Patent No. 375,022 there is only question of welding bars of metal together by first abutting the bars to be welded, applying a moderate pressure to force them together, passing the welding-current through the junction of the pieces and subsequently to an incipient welding, increasing the pressure.

As to be seen, in the named two United States Patents 347,140 and 375,022 there is no question of affording a quite intimate contact BETWEEN VERY THIN sheets of iron, before the electric current is led to said sheets so as to weld the same together. Besides, in the method forming the subject-matter of the U. S. Patent No. 375,022 a second pressing action is exerted in order to complete the welding process after the heating of the materials has already taken place, quite in contradiction with the new process applied for. Furthermore, applicant does NOT lead the electric current in SIMULTANEOUSLY with exerting a pressing action; but, on the contrary, in the process of applicant the pressure is IN ADVANCE with regard to the welding action of the electric current from the beginning and also during the whole duration of the process.

It is quite certain that never welding trials with very thin sheets of metal—for example, of 0.3 mm thickness—have been effected according to the processes of the U. S. Patents No. 347,140 and 375,022. If such trials had been made by Thomson before the ap-

D.

plication of his U. S. Patent some hints would have been given about the absolute necessity of keeping the pressing action always in advance of the welding proper, because if one does not proceed in this way, a burning through of the thin materials to be welded is unavoidable. It is true that Thomson has provided pressing

means, but he does *not* use said means in the same manner as applicant and besides not for pressing together very thin metal sheets from about two millimeters thickness downward.

The inventor was occupied during quite a number of years with the electric welding and tried to weld together very thin sheets also with the help of the principles stated in the U. S. Patents 347,140 and 375,022, but he obtained no practical results. Sometimes only an apparently good welding was obtained, but in the majority of cases the thin materials were burnt through and showed holes like a sieve, said holes being produced by electric sparks generated between the metallic surfaces in imperfect contact, and if a welding of such thin sheets could be obtained at all, the material was very much weakened at the place welded, so that said materials could not be used for practical purpose.

Only after long and repeated experiments the inventor, which during its trials found that a heating of the thin materials before the welding operation proper, that is, before the leading in of the

D.

electric current, must be avoided under all circumstances, discovered a way or method which permits a welding together of such thin sheets being effected with absolute certainty and reliability, *i. e.*, without a failure being possible.

It is quite true that with the devices of Thomson the eventual possibility existed to work in the same manner as applicant, but as a matter of fact nobody has worked in the same way as applicant and no one before applicant WAS ABLE to weld so very thin metal sheets together with absolute reliability, that is, without a burning through or damaging of the very thin metallic sheets being possible.

It is quite remarkable that in all the specifications cited by the Canadian Patent Office there is only question of the electric welding of objects, which can also be welded in an ordinary smithy fire, but in said former specifications absolutely nothing is said about the electric welding of very thin sheets of metal which can not be welded in the fire of a smithy. Therefore, the applicant is entitled to believe that no one before him devoted his attention to the welding of thin sheets of metal from about two millimeters in thickness downward, specially on an industrial scale. Consequently, nobody before the applicant was able to discover the fact that in welding very thin metallic sheets, the pressure must still be IN ADVANCE with regard to the welding.

D.

Favorable reconsideration and an early allowance is requested.

Respectfully submitted,

MARION & MARION,
Attorneys for Applicant.

Montreal, Canada, November 15, 1905.

D.

All communications should be addressed to "The Commissioner of Patents," "Ottawa." When writing on this subject refer to No. 108,990.

Dominion of Canada,
Department of Agriculture,
Patent Office,
Ottawa, Nov. 16, 1905.

Sir,

I am directed to acknowledge the receipt of your letter of the 15th instant, with enclosure, on the subject of Johann Harmatta's Application Serial No. 108,990 for "Electric Welding," and in reply inform you that the same has been referred to the Examiner.

A package of papers not required by the Office is herewith returned.

I have the honour to be, your obedient servant,

W. J. LYNCH,
Chief of Patent Office.

To Messrs. Marion & Marion,
Montreal, Que.

Patent Office, Canada,
Ottawa, January 11, 1906.

Johann Harmatta, per Messrs. Marion & Marion, Montreal, Que.

Please find papers herewith enclosed, and below a communication from the Examiner in charge of your application, Serial No. 108,990 for "Electric Welding" (Case 1).

GEO. F. O'HALLORAN,
Deputy Commissioner of Patents.

Any communication respecting this application should give the serial number and should be addressed to "The Commissioner of Patents, Ottawa."

Case re-examined on amendments filed November 16, 1905.

It may be remarked that limiting the welding to thin sheets about two millimeters and less in thickness and which can not be welded in the fire of a smithy does not give patentability to an old process.

The Office report of February 28, 1905, applies pertinently to the claims submitted. Said claims are moreover substantially the same as the rejected claims.

The former citation shows methods of welding by first pressing together the articles to be welded, then passing the electric current through them at the points to be welded while still maintaining the pressure. This method, without invention, could be used for lap welding sheets of metal as well as rods.

In reply to applicant's attorney's letter filed on the above date, the Office cites the following United States Patents disclosing methods and means for electrically lap welding metal sheets or bars.

These patents anticipate the amended claims:

690,958 to Hunter, January 14, 1902,
670,808 to Perry, March 26, 1901,
403,708 to E. Thomson, May 21, 1889,
423,735 to C. L. Coffin, Mar. 18, 1890,
437,571 to C. L. Coffin, Sept. 30, 1890,
444,928 to E. Thomson, Jan. 20, 1891,
447,104 to M. W. Dewey, Feb. 24, 1891.

F. D. WITTHROW.

Patent Office, Canada, Nov. 9, 1906.

MARION & MARION,

Patents and Patent Causes.

New York Life Building,
Montreal, November 7, 1906.

AMENDMENT.

In the Canadian Patent Office, Application of Johann Harmatta,
Electric Welding, Serial No. 108,990, filed Dec. 1/03.

Hon. Commissioner of Patents,
Ottawa, Ont.

Sir:

Responsive to the Official action of January 11, 1906, the duplicate specification and drawings are herewith returned, accompanied by duplicate extra copies of the rewritten claim.

E.

REMARKS.

None of the cited United States patents make a disclosure of electric welding of sheets of two millimeters in thickness, or sheets of even less thickness. Neither is there a disclosure made of placing metallic sheets one upon another and pressing the same together before conducting an electric current through them in such manner that a perfect contact of the parts to be welded is secured.

In the United States patent No. 690,958, cited, the overlapping tin ends are held in the proper position before conducting the electric current through, but they are not pressed together, as disclosed in the present application. If in this patent the tin ends were pressed together before heating, as hard as in the process disclosed by applicant, the small bosses formed in the tins before this step

would be pressed out again. From Claim 3 of this patent it can be clearly seen that the pressure is increased during the welding.

In United States Patent No. 670,808, cited, the welding pressure is only applied when the metal has become heated and soft by the passage of the electric current (see page 1, Claim 2, lines 64 and 65). In that patent there is the disclosure of welding material having a large cross section, and there is no disclosure of thin metallic sheets. The material being acted upon is different from applicant's disclosure, so that the patent is not as pertinent as at first it would seem to be.

In United States Patent No. 103,708, the welding pressure is only applied after the heating of the material, and not before and during the heating (see page 1, Claim 1, lines 15 to 17). This also applies to United States Patent No. 423,735 (see page 2, Claim 1, lines 8 to 11) and United States Patent No. 437,571 (see page 1, Claim 2, lines 98 to 100).

E. In United States Patent No. 444,928 (page 1, Claim 1, lines 35 to 38) a disclosure is made that the metallic sheets are pressed together, and that the electric current is conducted through them simultaneously. But, there is no disclosure that the pressure is such that a complete surface contact at the place of welding is obtained. It is natural that a certain pressure must be exerted at every welding before the heating, so as to keep the material together in the right position, but the process of applicant is based upon the fact that in operating on thin metallic sheets, a pressure must be exerted at the place of welding so strong that all unevenness of the metallic sheets is removed, so that a contact of the complete surface takes place.

As a new technical result obtained by this slight difference, it is submitted that all danger of burning or perforating the material is avoided. Applicant has ascertained through experiments that the minute perforations of the material in electric welding are caused by the formation of very small gaps, or by the effect of the piercing of small sparks. This burning of the material and its perforation always took place where the two thin metallic sheets were to be welded when the sheets were not brought into the closest contact before the current was switched on. It is believed that this fact was not known until now, and that this fact being ascertained, the process based upon it is new.

In United States Patent No. 447,104, the pressure is increased during the welding (see page 1, Claim 2, lines 62 to 70). It is expressly stated that the material is first heated and made soft by the electric current, and then the pressure is increased. This is different to what is maintained to be new, and the reference therefore is not a pertinent one.

F. If the Examiner is of the opinion that the claim now presented is allowable, the description will be subjected to conform to the claim.

The Examiner's most careful attention is requested to this single claim, which specifically defines applicant's invention.

Respectfully submitted,

MARION & MARION,

Attorneys for Applicant.

C/W

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The process of electrically welding thin metallic sheets and the like, from about two millimeters in thickness downward, which can not be welded in the fire of a smithy, consisting in first pressing intimately together the two superposed metallic objects at the very point, in which the welding joint is to be formed, and then, whilst maintaining the intimate pressure, heating the objects by passing an electric current through them exactly at said point, in which the welding is to be effected, substantially as set forth.

2. The process of electrically welding thin metallic sheets and the like from about two millimeters in thickness downward, which can not be welded in the fire of a smithy, consisting in superposing the metallic sheets and the like, exerting on said thin sheets and the like before and during the welding operation a pressure limited to a material point, and passing for a short moment a current also limited to said material point through said thin sheets and the like, substantially as set forth.

3. The process of forming seams with thin sheets and the like from about two millimeters in thickness downward, which can not be welded in the fire of a smithy, consisting in pressing together the parts to be welded in a series of points consecutively, and, whilst maintaining the pressure in said consecutive points, passing an electric current for a short moment exclusively through said points, so as to keep the pressing action in advance of the electric heating during the whole welding operation, substantially as set forth.

All communications should be addressed to "The Commissioner of Patents," "Ottawa." When writing on this subject refer to No. 108,990.

Dominion of Canada,
Department of Agriculture,
Patent Office,
Ottawa, Nov. 9, 1906.

Sir,

I am directed to acknowledge the receipt of your letter of the 7th instant, with enclosure, on the subject of Johann Harmatta's Ap-

plication Serial No. 108,990 for "Electric Welding," Case 1, and in reply inform you that the same has been referred to the Examiner.

I have the honour to be, your obedient servant,

W. J. LYNCH,
Chief of Patent Office.

To Messrs. Marion & Marion,
Montreal, Que.

Patent Office, Canada,
Ottawa, November 26, 1906.

Johann Harmatta, Esq., per Messrs. Marion & Marion, Montreal,
Que.

Please find papers herewith enclosed, and below a communication from the Examiner in charge of your application, Serial No. 108,990 for "Electric Welding" (Case 1).

GEO. F. O'HALLORAN,
Deputy Commissioner of Patents.

Any communication respecting this application should give the serial number and should be addressed to "The Commissioner of Patents, Ottawa."

Case reconsidered in view of applicant's attorneys' letter of November 7th, filed November 9, 1906, and the amendments submitted therewith.

The following report may be considered in two parts:

Part 1 dealing with the subject-matter of the specification now on file, filed with applicant's attorneys' letter of July 9, 1904. And part 2 dealing with the patentability of the subject-matter disclosed in the original specification and drawings.

Firstly. The claim may be rejected on the United States Patents of record Nos. 447,104 to Dewey and 444,928 to Thomson.

The tenor and gist of applicant's alleged invention, as interpreted by the Office from his specification above mentioned and principally from his various letters, is as follows: It would appear that his alleged invention consists in welding thin sheets of metal such as used in kitchen ware by pressing said sheets together between electrodes with very great pressure. This pressure being so great that all irregularities and unevenness will be pressed smooth and flattened out of the sheets and that all air space and interstices between the sheets will be eliminated. Then a current is passed between the electrodes whereby the metal is softened and welding takes place as the pressure is maintained but not increased.

Applicant's attention is directed particularly to United States

Patent No. 444,928 to Thomson, page 1, lines 34 to 39; lines 50 to 54; 90 to 95; page 2, lines 1 to 11; and 90 to 94. His attention is also directed particularly to Figures 1, 2 and 3 of the drawings and to Figures 2 and 3 of applicant's original drawings.

Now it will be seen that Thomson's process and apparatus are intended for welding thin sheets of metal. This is done by intimately pressing the sheets together and then passing an electric current through them.

His apparatus and applicant's above referred to would necessarily work in substantially the same way. Thomson's rolls R and R' would press the sheets together with a pressure which increases to a maximum and then electric current will be passed between the electrodes and welding will take place without increasing the pressure. Thus it is seen that Thomson's apparatus provides for eliminating all irregularities and air space between the sheets to be welded. His electrodes are adjustable to and from each other to regulate the amount of pressure required.

However, as Thomson has not made a feature of his specification in using extreme pressure, it may be contended that applicant, in the above amended specification, disclosed certain patentable novelty. This novelty might be considered as pointed out in a claim read somewhat as follows:

"The process of welding a plurality of metal sheets consisting in exerting a maximum pressure by means of electrodes on said sheets, thereby flattening, smoothing out and eliminating all irregularities and intimately pressing said sheets together whereby air space and interstices between said sheets are eliminated, subsequently passing an electric current through the sheets thus softening and welding same while maintaining but not increasing the pressure on the sheets."

Such a claim would be very narrow and it is doubtful if the courts would maintain it as being valid over the patent of Thomson for it is considered that the Thomson patent approaches so near to the claim that any one skilled in the art without invention would use such a process as pointed out in the above claim. However, as it is the duty of the Office to give an applicant the benefit of any doubt as to patentability, the above claim has been suggested.

Secondly. As above pointed out there appears to be very narrow patentable matter disclosed in applicant's specification and drawings filed with his letter of July 9, 1904. But on a thorough examination and consideration of this case as originally filed, and the amendments, it is held that applicant did not disclose any patentable process in his original specification and drawings, hence consideration can not be given to any claim such as suggested which may be submitted.

In view of the fact that there was no patentable novelty originally disclosed in the application as filed December 1, 1903, this application is held rejected.

The Office has gone very fully into the consideration of this case so that applicant, if he so desires and can in view of the Petition and Oath required file a new application embodying the very limited doubtful patentable matter.

F. D. WITHROW.



6 NO. 102,990.....
AGRICULTURE.
Department of ~~EXAMINER~~ COMMISSIONER
PATENT OFFICE
MONTEAN, OUR.
NOV. 10, DEC. 1, 1901

PATENT

NO.....
DATE.....

APPLICANT
JOHANN HARMATTA,

per
MARTON & MARTON,
N. Y. Life Building,

INVENTION

"ELECTRIC WEAVING."

CASE 1.

COST OF COPIES

PATENT AND SPECIFICATION, 1
SPECIFICATION
DRAWING
PETITION
OATH

\$20.00 Receipt No. 110588
C. H. L.

ACTION

Acknowledged by Circular I, and receipt
mailed Dec. 4/05. MARK

Exr's rep't. & dupl. mld. Apr. 19/04. Letter and amended papers
May 10/13/04 & C.E.D. Ack'd by Cir. 6 May 13/04. Letter
and amended claims Jul. 9/12/04 and C.E.D. Ack'd by Cir. 6
Jul. 15/04. Letter and claims Nov. 7/9/04. Ack'd by Cir. 6
Nov. 9/04. Exr's report and dupl. mld. Feb. 22/05. Letter
and amd. papers rec'd Nov. 15/16/05. Ack'd by Cir. 6
Nov. 16/05. Cancelled papers rst'd. Examiners' report
and dupl. mld. Jan. 12/06. Letter and amd. papers rec'd
Nov. 7/9/06. Ack'd by Cir. 6 Nov. 9/06 Exr's rept. & dupl.
mld. Nov. 29/06.

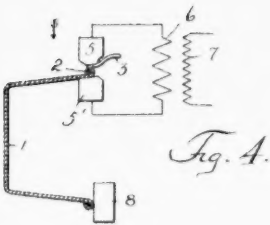
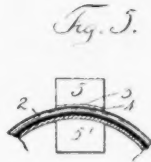
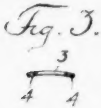
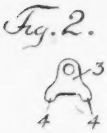
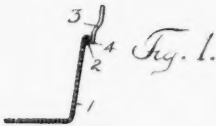


Defendant's Exhibit No. 53

A. F. RIETZEL.
CONSTRUCTION OF SHEET METAL UTENSILS.
APPLICATION FILED DEC. 26, 1906.

1,041,351.

Patented Oct. 15, 1912.

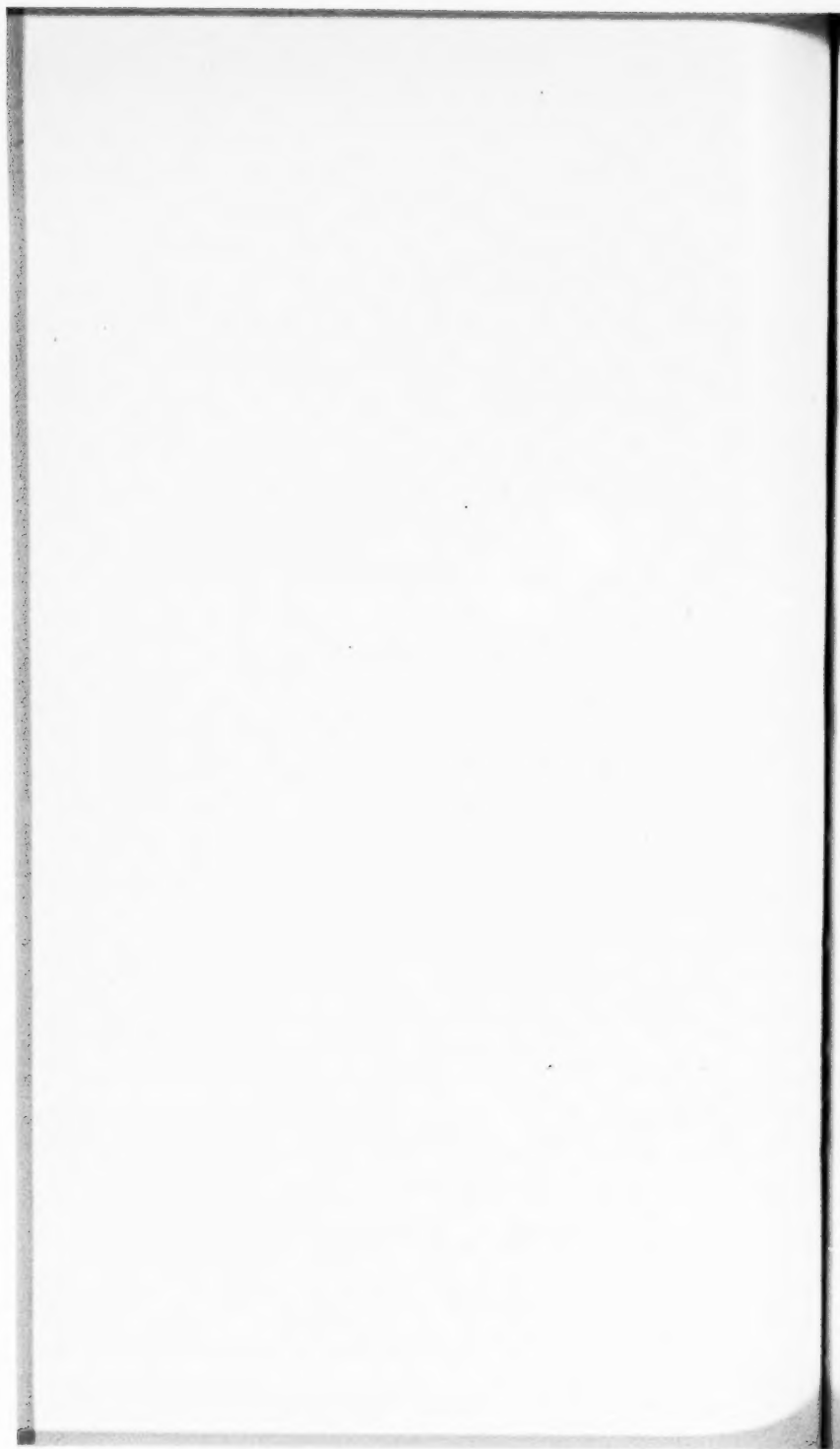


WITNESSES:

W. H. Schaefer
Lillian Bond

INVENTOR

Adolph F. Rietzel
BY
Townsend & Decker
ATTORNEYS



UNITED STATES PATENT OFFICE.

ADOLPH F. RIETZEL, OF LYNN, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THOMSON ELECTRIC WELDING COMPANY, OF LYNN, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

CONSTRUCTION OF SHEET-METAL UTENSILS.

1,041,351.

Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed December 26, 1906. Serial No. 349,547.

To all whom it may concern:

Be it known that I, ADOLPH F. RIETZEL, a citizen of the United States, and a resident of Lynn, in the county of Essex and State of Massachusetts, with post-office address Lynn, Massachusetts, have invented certain new and useful Improvements in the Construction of Sheet-Metal Utensils, of which the following is a specification.

My invention relates to the manner of securing bail ears, handles or other attachments to the bodies of sheet metal utensils or similar articles. The usual method of securing such attachments is to rivet the ear, handle or other device to the plane surface of the utensil body which, in practice, is a more expensive method of attachment than that provided by my present invention and, moreover, does not form a perfect union such as is desirable when the utensil with its attachment is subsequently subjected to an enameling process. It has also been proposed to secure the attachment to the sheet metal body by indenting the sheet metal attachment or the surface of the body to which it is united to form electrical contacts of restricted area which will localize the heating electric current passed through the metal and bring the parts to the requisite welding temperature so as to permit the parts to be welded by pressure as in the well-known electric welding process. The latter method of attachment requires a special preparation of the parts to be united which it is one of the purposes of my invention to dispense union, while at the same time securing a firm union of the attachment to the utensil body.

Briefly stated, my invention consists in attaching the bail ear or other sheet metal attachment by welding it on its plane face directly to the rounded edge of the utensil body, said rounded edge affording on its point of contact with the plane face of the metal attachment, the contact of restricted extent which, by localizing the current and opposing its free passage, brings the parts quickly to the welding temperature preliminary to the application of the welding pressure. To assist in the localization of the heating effect, the ear or other attachment may be formed with two or more planar projections of restricted area which touch the rounded edge and form in a way heat localizing projections whose office is similar to

that of the projections formed on the face of the attachment by indenting the metal as in the previous method of attachment. It is, however, within my invention to dispense with the use of such planar projections, the localization of the heating effect being then due simply to the fact that the plane face of the attachment makes contact with the edge on a rounded surface.

My invention consists further, broadly stated, of a sheet metal utensil having the bail ear or other attachment welded to the edge of the utensil body at a plane face of the attachment.

In the accompanying drawings, Figure 1 is a section through one side of the body of a sheet metal utensil showing the manner in which the bail ear or other attachment makes contact with the rounded edge. Fig. 2 is a plan of a bail ear of the preferred form. Fig. 3 is an end view of the attachment looking toward the end which has the planar projections. Fig. 4 shows the utensil and attachment as assembled between the pressure jaws or blocks of an electric welding apparatus by which the attachment may be welded to the edge of the utensil. Fig. 5 is a face view of the two welding jaws or blocks and illustrates the concave and convex form given to the surfaces in order that they may properly engage the circular edge of the utensil.

Referring to the drawings, 1 indicates the sheet metal body of a utensil having a rounded edge 2 usually employed for the purpose of reinforcing the metal at the edge.

3 is the attachment formed of sheet metal and shown in Fig. 2 as consisting of a bail ear, although as will be obvious, the attachment might be a sheet metal handle of any form or any other attachment which it is desired to secure to the utensil body.

In the preferred form of attachment, the same is provided with planar projections 4 which are adapted to restrict or lessen the area of contact between the attachment and the edge of the utensil. When so formed the union of the attachment and the rounded edge is by the plane faces of said planar projections 4, only, the intermediate portion being free of union with the edge. Ordinarily, it is preferred to use two or more planar projections as described, since the same being located at a considerable dis-

5 tance apart, form a more secure means of attachment. It would, however, be within my invention to make the union extend continuously across the face of the sheet metal attachment, the same being curved to properly engage the edge of the utensil in a continuous circumferential line. In any case, however, it will be seen that the plane face of the attachment forms a tangent to the curve of the edge of the utensil and thereby gives a restricted or limited area of contact for the passage of electric current used in the welding, thereby localizing the heating in order to quickly and economically heat the parts to a welding temperature at the point of union.

10 The actual operation of welding is conveniently carried on in an electric welding machine, parts of which are indicated in Fig. 3 diagrammatically. In this figure the contact and pressure jaws or blocks shown at 4, 5, 5' are adapted to receive the edge of the utensil and the attachment 3 assembled as shown. The parts being lightly compressed together by the operation of the pressure jaws, electric current is permitted to flow and bring the parts to a proper welding temperature after which the quick application of heavy pressure completes the weld and forms a strong union between the attachment and the utensil body on the edge of the latter.

15 In Fig. 4 the usual transformed secondary of which the pressure blocks 3, 5' constitute the electrodes is typified at 6, while 7 typifies the transformer primary. 8 is a stop

which assists in properly locating the utensil between the jaws 5, 5'. When the utensil body is round at its edge, the jaws 5, 5' should be properly formed as shown in Fig. 5, the one with a convex face to engage the inside of the utensil body and the other with a concave face to properly engage the curved edge of the attachment.

What I claim as my invention is:

1. A sheet metal utensil having its attached bail ear or other sheet metal attachment welded to a rounded edge of the utensil body by its plane face, as and for the purpose described.

2. A sheet metal utensil having a bail ear or other attachment welded to the edge of the utensil body by two or more projections in the same plane as the main body portion of the ear.

3. A sheet metal utensil having a rounded edge to which the bail ear or other attachment is welded at the plane face, of two or more planar projections extending from said attachment.

4. The combination with a sheet metal utensil, of a rounded reinforced edge on said utensil and a bail ear welded to said edge directly by the plane surface of said ear.

Signed at Lynn in the county of Essex and State of Mass. this 28th day of Nov. A. D. 1906.

ADOLPH F. RIETZEL.

Witnesses:

ADA J. NICHOLS.

ERNEST G. MITCHELL.

2073

defendant's Exhibit No. 72

THE NATIONAL ELECTRIC WELDER CO.

MANUFACTURERS OF

SPOT, BUTT AND SEAM WELDERS

PROMPT ATTENTION GIVEN TO THE DESIGN AND CONSTRUCTION
OF MACHINES FOR SPECIAL WORK

United States District Court

Eastern District of Michigan WARREN, OHIO. April 20th,
1914.

Southern Division

*Thompson Spot Welder Co. } In Equity
Plaintiff }
vs }
Ford Motor Co. } Defendant }
10.46.066*

J. Nota McGill,
Att. at Law,
Washington, D. C.



Dear Sir:-

*"Defendants Exhibit No 72, Inc Berty
April 20, 1914" Thomas Durant, et al vs J. Nota McGill*

I have been expecting to be in your neighborhood and call on you regarding the Harmatte Patent Situation.

The case was filed against the Barney and Berry Co., suit being instituted by the Thompson Co., for infringement on the Harmatte Patent, and was defended by the Toledo Elec. Welder Co. at Boston last month.

As I understand, the case was set for the week before April 1st, and was postponed until April 1st. I will try to give you an idea of just what happened.

I was sent for hurriedly, at the last moment, and when I got down there, I found that the case was to be tried the same day. I stayed there from the 1st of April until the following Friday evening, when the evidence was all in, and I watched matters pretty close, and I am very much inclined to think that it is a sell-out proposition.

I had quite a talk with Mr. Warren, after we had been there a couple of days, and I found out that he had been down at Brooklyn, with the Universal people, for about three weeks, and the final wind-up was that he could not get together with the Universal people at the early part of the game, and consequently the Thompson people had this case postponed one week. This is what Mr. Warren tells me. Apparently the Thompson people were very much interested in having the Toledo and Universal people get together.

However, it began to look a little better after the case had been postponed and set forward a week, and Mr. Warren tells me that the night before the case was to be tried, or rather the day before, he had a contract all written up and signed by Lankman of the Universal Co. which was based on a nominal fight on the Patent, and then the Patent would be sustained, and the Toledo Co. would place machines under a rental basis and a percentage of the rental was to go to the Thompson people and

the Universal people. He outlined all the terms to me.

As this was entirely satisfactory to the Universal people, apparently, they signed it through Mr. Lockman, and he then went to the Tompcon Co. at Lynn, Mass. and everything appeared to be satisfactory to them, although as I understand it there was no signature passed in that case, as the deal was entirely between the Toledo and the Universal.

When he returned, however, to Boston, to be present at the case, he found that the Universal people were not going to stand by the contract, and they advised him that Mr. Lockman had no business whatever signing such a contract.

Now, whether this was just a matter of safety and they were afraid that the proposition would be brought into the court and used as evidence against them, I cannot say, but it certainly upset Mr. Warren very much when he found out that his agreement apparently was not holding.

The last day of the case I was talking with Warren and he seemed to feel so blue that he was about ready to give up, and he told me that if they lost this case, they were going to clean up every outstanding account they had, and then if there was anything more doing, the customers would have to do it, in other words, he proposed to get in shape to get out of this welder business, and my opinion of the whole situation is that his intention is to clean up all outstanding accounts and then if he can make a deal with the Tompcon people, whereby he will continue under their protection, all right, well and good, the customers can get nothing of him and if he cannot, he will try and sell out to the Tompcon Co.

Another thing which surprised me was, that I was in Hamilton, O., which is close to Cincinnati Saturday, and I got word that the Toledo Coils plant was shut down due to a strike. This seemed rather peculiar on the face of it, because there are about 75% of the mechanics and Hamilton, which is the biggest machine tool center in the world, and the fact that there men are out of work, would indicate that it was a very poor time for a bunch of men to go on strike for an increase of wages. I am therefore inclined to think that this strike was more with a view of closing the plant down for the time being than it was to get anything else. I think that the strike was organized from the office rather than by the men.

Of course, I can see where the Tompcon people would not sign up any contract with the Toledo Co. at that particular instance, because proving in the court that such an arrangement had been made would have a tendency to prejudice the judge in favor of the Patent not being valid.

would be pleased to hear from you, and hope this long letter has
not taken up too much of your valuable time.

Thanking you for your past favors, I am

Very respectfully yours,
The National Elec. Welder Co.
per

T. P. Mc Berty

WPM/1.

Sec. and Treas.

THE NATIONAL ELECTRIC WELDER CO.

MANUFACTURERS OF

SPOT, BUTT AND SEAM WELDERS

PROMPT ATTENTION GIVEN TO THE DESIGN AND CONSTRUCTION
OF MACHINES FOR SPECIAL WORK

WARREN, OHIO, February 1st,
1913.

SB50-89911

J. Neta McGill,
McGill Bldg, Washington, D.C.

Dear Sir:-

Re, Your letter January 29th, 1913.

We forwarded you today by parcel post
(registered) the fan blade which was spot welded in
1901 or thereabouts.

We could not give this more prompt attention
due to the fact that Mr. McBerty was out of the city,
and the writer could not get into the box in which
he keeps his valuables(?)

Hoping this arrives without any unnecessary
delay, we are

Very respectfully yours,
The National Elec. Welder Co.

By

J. H. McBerty
Assistant Sec'y.

ZAM/L3

United States District Court
Eastern District of Michigan
Southern Division

Thomson Spot Welder Co
Plaintiff } In Equity
vs } on Remedy
Ford Motor Co. defendant } Patent No
1046066

Defendants Exhibit No. 73. See Reply Letter
February 1, 1913
Thomas Durant
et al.



Board of Examiners-in-Chief Decision in Harmatta vs. DeFerranti
Hearing:
December 17, 1918.
Appeal No. 2844. U. S. Patent Office. June 24, 1919.

BEFORE THE EXAMINERS-IN-CHIEF, ON APPEAL.

In the matter of the interference between the application of Sebastian Ziani de Ferranti, filed December 29, 1911, Serial No. 668,464, division of application filed May 14, 1904, Serial No. 208,034, and the patent to Johann Harmatta, granted December 3, 1912, No. 1,046,066, on application filed December 3, 1903, Serial No. 183,677. Interference No. 36,709.

IMPROVEMENT IN ELECTRIC WELDING.

MESSRS. SPEAR, MIDDLETON, DONALDSON & SPEAR and MR. MELVILLE CHURCH for de Ferranti.

MESSRS. TOWNSEND & DECKER for Harmatta.

De Ferranti has appealed from the decision of the Examiner of Interferences awarding priority of invention to Harmatta.

The invention is defined in an issue of four counts. These are as follows:

1. The hereinbefore described improved method of fastening two pieces of metal together by electrically welding them to one another at spots only of their juxtaposed or opposite faces by the application of pressure and heating current localized in such spots.

2. The herein described method of uniting two pieces of metal at a number of distinct or separate spots separated from one another by well defined areas of no union, consisting in applying pressure localized at the spots of desired union, and passing electric current through the pieces from one to the other while confining the flow of current to said spots until the union is effected.

3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

4. The improved method of uniting two pieces of metal at a spot or spots only in their opposed meeting surfaces, consisting in pressing the two pieces together, and passing a welding electric current from one to the other while localizing the pressure in and confining the flow of current to the spot or spots of desired union so as to produce an isolated spot or

Board of Examiners-in-Chief Decision in Harmatta vs. DeFerranti

Both parties are foreigners. Harmatta has not attempted to carry his date of invention back of his filing date in this country, December 3, 1903. De Ferranti's application in interference is a division of his application No. 208,034, filed May 14, 1904, upon which patent No. 1,148,221 was granted on July 27, 1915. To overcome Harmatta's earlier filing date in this country, de Ferranti relies entirely on the filing of a provisional application in Great Britain on May 25, 1903. The complete specification was left on February 25, 1904, and accepted August 25, 1904. Patent No. 11,921 of 1903 was granted upon that application.

Harmatta contends that de Ferranti's provisional application does not adequately disclose the invention here in controversy. Both parties have taken testimony on this question. The Examiner of Interferences found for Harmatta upon this point and also held that de Ferranti was estopped from asserting priority over Harmatta by the doctrine of *Rowntree vs. Sloan*, 227 O. G., 744; 45 App. D. C., 207.

De Ferranti's provisional application is particularly directed to a process of attaching turbine blades. And the object of the invention is stated to be the reduction of the large amount of metal therefore appearing in the turbine ring to which the blades are welded, so as to reduce the flow of heat from the vicinity where the blade is welded to the ring. De Ferranti described in his provisional application several different forms or processes, some of which clearly do not come within the scope of the counts. The provisional specification did not comprise a drawing.

We find that de Ferranti's witness has fairly set forth the inferences which those skilled in the art would draw from this provisional application. De Ferranti's Exhibit No. 1 correctly shows, in our opinion, what those skilled in the art would understand this provisional application to describe. In making the structures of figures 2, 3, 5 or 7 of this exhibit as described in the provisional application, those skilled in the art would infringe the claims which constitute the counts of this interference.

Nor can this disclosure be regarded as accidental merely because the functions and advantages thereof which underlie the invention here in controversy were not appreciated by de Ferranti. They are inherent in his process as disclosed when carried out in the manner indicated in figures 2, 3, 5 and 7 of de Ferranti's Exhibit No. 1.

Nor can this disclosure be regarded as accidental merely because de Ferranti also disclosed the forms or methods indicated in figures 1, 4 and 8 of his Exhibit No. 1 which do not involve the process here in issue. When an inventor positively and definitely describes two or more structures or processes, he is not any the less a discloser and inventor of any one of these than he would have been had he disclosed only that one.

In this connection it is noted that Harmatta's application in inter-

Board of Examiners-in-Chief Decision in Harmatta vs. DeFerranti invention when originally filed. The emphasis and claims therein were to the application of pressure to the weld through the electrodes though the present process was unmistakably disclosed.

We hold that the Examiner of Interferences erred in not finding the invention in controversy to be adequately disclosed in the de Ferranti provisional application.

Taking up the question of estoppel we find that de Ferranti appears to have first asserted claims to the present invention on December 6, 1910. As Harmatta's patent did not issue until 1912 de Ferranti is not barred by the same from prevailing here. But the counts of this interference were drawn from a patent to Rietzel No. 247,081 (928,701), which issued upon July 20, 1909. Harmatta made claims to the present invention at least as early as March 31, 1910, and an interference was declared between his application and the Rietzel patent upon April 26, 1910. If de Ferranti had been claiming the present invention at that time he would presumably have been placed in that interference. It is true that the Examiner could have taken steps toward the inclusion of de Ferranti's application in that interference at any time after December 6, 1910, when de Ferranti first laid claim to the present subject-matter. This was presumably overlooked by the Examiner. If the claims that de Ferranti advanced on December 6, 1910, had been advanced before July 20, 1910, he would not have been estopped even though the Examiner did not take steps looking to the addition of de Ferranti to the Rietzel-Harmatta interference. As it is, however, de Ferranti did not make any claim until more than a year after the issue of the Rietzel patent, whereas Harmatta did do so and has prevailed over Rietzel in an interference proceeding. We think that the reasons underlying the decision in Rowntree vs. Sloan, *supra*, apply to the present case and that de Ferranti is accordingly estopped to assert priority over Harmatta. Harmatta must therefore prevail.

The decision of the Examiner of Interferences is affirmed and priority of invention is awarded to Johann Harmatta, the senior party.

Limit of Appeal, July 14, 1919.

FAIRFAX BAYARD,
FRANK C. SKINNER,
E. S. HENRY,
Examiners-in-Chief.

2-890.

UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the
Records of this Office of the Title Page and Pages 863 and 867,
Issue of June 22, 1904, of a Publication entitled:-

PATENTBLATT.

PATENTLISTE

1904

BERLIN.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 9th day
of October, in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-fourth.

*United States District Court
Eastern District of Michigan
Southern Division.*

*Thomson Spot Welder Company, Plaintiff, vs. Defendant
Ford Motor Company. Defendant
"Defendants Exhibit CCCC" and Special Examiner.*

In Contracting Commissioner of Patents

W. S. Miley Notary Public



Patentblatt.

Bekanntmachungen

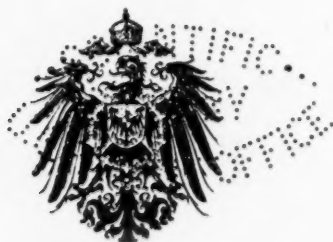
auf Grund des

Patentgesetzes und des Gesetzes betreffend den Schutz von Gebrauchsmustern.

Herausgegeben

vom

Kaiserlichen Patentamt.



Neundzwanzigster Jahrgang.

1904.

Erster Halbband.

81485

Berlin

Carl Heymanns Verlag.



209. J. 18041. Verfahren zur Darstellung kleiner bis grüner Jacobsteine der Anthracitreihe. — Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld. 28,9 OZ.
229. J. 35988. Verfahren zur Herstellung eines Schalladapters. — Dr. Heinrich Damberger, Dresden, Schnorrstr. 42. 12 12 03.
246. Sch. 19747. Umfichtvorrichtung für die Luft- und Dampfzuführung bei Wasseragenderzeugern. — Charles Henry Schill, Manchester u. Porteur Grafton Hills, Hyde, Engl.; Vertr.: Pat.-Anwälte Dr. H. Wirth, Frankfurt a/M. 1 u. W. Dame, Berlin N.W. 6. 12 11 03.
253. M. 21048. Flechtmaschine für Bänder udgl. — Louise Mundt geb. Penz, New-York, R. St. A.; Vertr.: Gust v. Niehen u. Ant v. Niehen, Pat.-Anwälte, Berlin N.W. 7. 28 2 03.
343. G. 12408. Zerfleinerungsvorrichtung für Zwiebel udgl. — Hans Collin, Berlin, Rahmentalallee 57. 14 1 04.
318. S. 1977. Schnurzug mit endloser Schnur für Harbinen, Vorzüge udgl. — Gustav Hill, Dagen i/W. 11/12 03.
344. G. 11142. Stuhl mit verstellbarem Sitz. — Century Thermal Bath Cabinet Co. m. b. H., Berlin. 1/10 02.
- B. 5114. Zweiteilige Kollimatorie. — Vereinigte Berliner & Erdmannsdorfer Fabriken Edmundo Böhm & Th. Parvoké, Berlin. 6 5 03.
341. D. 14150. Strahler. — Charles Erich Daren, Reunier an Samma, Algérie; Vertr.: Color Arcus, Berlin, Friedrichstr. 216. 24 11 03.
36. St. 8718. Mit Dampf betriebener Doppelsessel. — Erhard Stahl, Mannheim, V. 13. 5. 25 2 04.
404. S. 18569. Verfahren zum Reinigen von Zantmetall. — Siemens & Halske Akt. Ges., Berlin. 15 10 03.
421. R. 7241. Vorrichtung zur Verbindung des rührlichen Säurens der Alperklappe bei selbstthätigen Wagen. — Carl Nagel, Wiesmarode, Braunschweig. 11/4 04.
429. D. 11065. Schalldiole für Sprechmaschinen mit rechteckig gehobenen Aufsätzen. — Deutsche Telefonwerke H. Stod & Co., G. m. b. H., Berlin. 22/10 03.
424. R. 25906. Bilderzuführer für Projektionsapparate udgl. — Dr. Alfred Koeppe, Berlin, Lustowstr. 126. 4/9 03.
424. M. 24514. Normalthermometer. — Michael Meißerschmidt, Egersburg i/H. 1/12 03.
421. T. 9176. Absorptions- und Regbürette für Gasanalyse. — Otto Tollens, Göttingen, Theaterplatz 9. 16/9 03.
424. M. 20296. Schneidvorrichtung, bei der die auszubearbeitenden Schneidwerkzeuge auf abkühlendem Felder gelagert sind. — Jacob Galvin Wolfe u. Edwin Wallace Morton, New York, R. St. A.; Vertr.: Pat.-Anwälte Dr. H. Wirth, Frankfurt a/M. 1 u. W. Dame, Berlin N.W. 6. 28 4 02.
433. G. 11257. Selbstflüssigernde Gas bzw. Flüssigkeitvertheiler. — Henry Goones, London; Vertr.: Dr. R. Lepy, Pat.-Ann., Berlin N.W. 6. 15 11 02.
453. P. 15327. Brustvorrichtung mit einem auf den Oberarm liegenden aus Holz und brennender unabhängigen Höhlen drückenden Fettsäuresystem. — Fritz Vogl, Berlin, Immanuelstr. 14. 4 12 03.
451. R. 32559. Klebereisen. — Bernhard Brand, Halle, Mühlentw.; Vertr.: A. Neumann, Pat.-Ann., Berlin N.W. 6. 11/9 02.
461. P. 15308. Elektrische Randvorrichtung an Automobilwagen und Motorfahrzeugen. — Victor Heilmann, Apparatbau G. m. b. H.,
470. G. 4681. Zur Ausbreitung unter Benutzung der bekannten, zur Schmelzwirkung benutzenden ringförmigen Glühlichtschaltung. — Hugo G. Wein, Ludwigshafen a/Rh., Kaiserliche Post. 22 03.
- B. 5321. Schwungrad. Zeitscheibe oder ähnlicher Umlaufkörper. — Karl Viola, Berlin, Kaserstr. 10. 12 12 03.
470. T. 12562. Kettenverbindungsstiftel. — Duisburger Maschinenbau- u. Ver. Ges. vorm. Breheim & Reetman, Duisburg. 20 5 02.
491. D. 20190. Verfahren und Vorrichtung zur elektrischen Zerschneidung dünner und dünnerer Bleche. — Wilhelm Engel, Berlin, Schöneberg, Altenhofstr. 21. 24 3 02.
501. D. 20090. Staubkammer. — 29. Patent. Landbammer. Pros. Zahlen. 11 3 03.
511. F. 15 192. Verfahren zur Herstellung von Strichen für Holzschnitten udgl. — Georg Paulus, Hambach i/S. 25 11 03.
510. A. 10375. Pneumatische Zerkleinervorrichtung für Teilmittelstücke. — The Acoustic Company, New York; Vertr.: Dr. Pfeiffer u. Dr. V. Zell, Pat.-Anwälte, Berlin N.W. 7. 5 10 03.
520. S. 24 211+2. Abmader mit zur Einföhrung des Fadens dienendem, zwischen dem und dimerende der Abmader angeordnetem und dort einwirkendem Seil. — Paul Schmidt, Westingen. 11 11 03.
- B. 5659. Maschine zum webartigen Hand- und Zaumnähen. — Gustav Tietzel, Plauen i/S. 14 1 03.
520. R. 2657. Antriebsvorrichtung für die Radeln bzw. Schiffschen von Schiffchenmaschinen durch Kurvenische und Rolle. — Aug. Hermann Meyer, Plauen i/B. Zennarstr. 16. 15 6 03.
- B. 5357. Vorrichtung an den die Schiffchenführungsdräger tragenden Aufhängesystemen an Schiffchenmaschinen. — Vogel'sche Maschinenfabrik (vorm. J. G. & F. Dietrich) Akt. Ges., Plauen i/S. 28 12 03.
531. F. 15 415. Zerstösseapparat, bestehend aus einer Anzahl in einander angeordneter Behälter. — Axel Alexander Theodor Pfeiff, Stockholm; Vertr.: Franz Schwenker, Pat.-Ann., Berlin N.W. 6. 27 7 01.
541. G. 19150. Verfahren zur Herstellung von Papiermachware aus sogenanntem Anasch. — Carl Wactiner, Berlin, Untergrundbahn 210. 5 11 03.
570. G. 11093. Verfahren zur Herstellung photographischer Aufnahmen aus unbewegtem Lichtstrahl. — Carl Clouth, Hamburg a/Gib. 4 9 03.
590. A. 17403. Hochdruckeile Dampfmaschine der Pumpen; Zul. i. Pat. 13412. — Andreas Rodovanovic, Jamb. ; Vertr.: C. Wappt, C. Brunsman u. Th. Zier, Pat.-Anwälte, Berlin N.W. 6. 17 3 02.
631. D. 21190. Anker für Federäder. — Oscar Blonder, Cuxhav i/Baltisch Erdmannsdorf i/H. 22 9 03.
640. G. 30823. Verbinder der Mundstücke für Zuckergläser. — Jrl. Marie Gerland, Berlin, Lindenstr. 61. 28 6 03.
640. S. 24 2150. Verfahren zum Schneiden und Zerschneiden von Papiermaschinen für Holzen. — Hans Schwarzkopf, Berlin, Tauentzienstr. 20. 6 12 03.
641. R. 26137. Vorrichtung zum Abstreifen von Spanten udgl. — Ernst Kaufmann, Jamb. 20 10 02.
720. D. 25207. Zerkleinerer für laubartige Früchte. — Emil Weinmann, Altmünde i/H. 28 3 04.
701. T. 1061. Aufnahmeverrichtung für Zeitstrahlen (Zeitstrahlen) zur Herstellung von Bildern in Strahlungsbildern. — Fritz Zitzert, Bonnstr. 120. 02 1 03.



Defendant's Exhibit 4, 5, 6, 7

(Exhibits)

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

Exhibit 4, 5, 6, 7

2086

2.

PATENT GAZETTE.

(Publications on the basis of the Patent Law and of the
Law relating to the protection of Utility Models)

and

ABRIDGEMENTS OF THE PATENTS.

Published by the Imperial Patent Office.

1904.

Berlin, Wednesday, 22. June

No. 25.

PATENTS.

APPLICATIONS. Note: Printed copies of patents for these inventions appear only after the grant has taken place and cannot yet be ordered (see under remarks to "Grants"). For the purpose of possible opposition, the Patent Office furnishes copies of the specifications and drawings upon payment of their cost.

Class:

49f. H. 30189. Process and Apparatus for electrical welding of thin and very thin sheets of metal.

-Wilhelm Egel, Berlin-Schöneberg, Akazien St. 21. 24/3 03.



Defendant's Exhibit B. B. B. B.

2087

2-890.

UNITED STATES OF AMERICA

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the

Records of this Office of the Title Page and Pages 363 and 373,

Issue of March 14, 1906, of a Publication entitled:-

PATENTELATT.

PATENTLISTE

1906

BERLIN.

IN TESTIMONY WHEREOF I have hereunto set my hand
and caused the seal of the Patent Office to be affixed
at the City of Washington, this 9th day
of October, in the year of our Lord one
thousand nine hundred and nineteen and of
the Independence of the United States of America the
one hundred and forty-fourth.

*United States District Court
Eastern District of Michigan
Southern Division*
Thomas & Spat Welder Company, Plaintiff
Ind. Motor Company, Defendant
Defendant's Exhibit 73 73 73
W. E. Hickey, Notary Public
and Special Examiner



Patentblatt. 2088

Bekanntmachungen

auf Grund des

Patentgesetzes und des Gesetzes betreffend den Schutz von Gebrauchsmustern.

Herausgegeben

von

Kaiserlichen Patentamt.



Dreißigster Jahrgang.

1906.

Zweiter Halbband.

84677

Berlin.

Carl Henmanns Verlag.



*Kaiserliche.
Patentamt.*

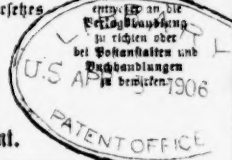
Patentblatt

(Erläuterungen auf Grund des Patentgesetzes und des Gesetzes
betreffend den Schutz von Gebrauchsmustern)

Auszüge aus den Patentschriften.

Herausgegeben von dem Kaiserlichen Patentamt.

Mitteilungen sind an das
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zu richten oder
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1906



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1906.

Berlin, Mittwoch, 14. März

Nr. 11.

Inhalt: Patente: Anmeldungen; Zurücknahme von Anmeldungen; Verfügungen; Erteilungen; Änderungen in der Person des Inhabers; Änderung in der Person des Berechtigten; Änderung des Wohnorts; Verfügungen; Teilweise Verfügungsverkürzung; Zurücknahme eines Patents; Berichtigung; Patentschriften; Reproduktion von Patentschriften. — Gebrauchsmuster: Eintragungen; Änderungen; Änderungen in der Person des Inhabers; Verlängerung der Schutzfrist; Verfügungen; Zur Nachricht.

Patente.

Anmeldungen.)

Für die angegebenen Gegenstände haben die Nachgenannten an dem bezeichneten Tage die Erteilung eines Patents nachgesucht. Hinter der Klassenziffer ist jedesmal das Aktienzeichen angegeben. Der Gegenstand der Anmeldung ist einmengen gegen unbefugte Benutzung geschützt.

(Veröffentlichung im Reichs-Anzeiger vom 8. März 1906.)

- 23. D. 14936. Teilschneidemaschine mit in entgegen-
gesetztem Sinne umlaufenden Walzen oder sich ent-
sprechend bewegenden Angriffsfächen. — Christian
Friedrich Diez, Chicago; Vertr.: C. Gronert u.
W. Zimmermann, Pat.-Anwälte, Berlin S.W. 61.
26/7 04.
- 41. B. 26706. Aus einem elektromagnetischen
Unterbrecher bestehende Zündvorrichtung zur Gas-
brenner. — Multiplex Internationale Gas-
brenner Gesellschaft m. b. H., Berlin. 4/1 06.
- 41. B. 14138. Verfahren zur Herstellung eines
gleichmäßigen Kopies an Glühkörpern nach Patent
132094; Zus. z. Pat. 132094. — Patent-Rund-
kopf-Glühkörperfabrik Ernst von Salom,
Schneeberg. 15/10 02.
- 12. B. 38293. Gasglühlichtbrenner, bei welchem
der Glühkörper durch vom Mischrohr ausgehende
Zweigrohrchen beheizt wird. — Adolf Bachner,
Berlin, Salomstr. 59. 8/10 04.
- R. 80124. Nach unten gerichteter Gasglühlicht-
brenner. — Fritz Klesler, Hamburg, Belmi Stro-
hause 49. 10/8 05.
- 41. B. 26986. Erzentrichter Rohrmetzel. —
Philipp Schloffer, Eutenhart, Rum; Vertr.: C.
Tolchow, Pat.-Anw., Berlin N.W. 6. 26/6 05.
- 41. B. 21368. Geflechtsrohrmaschine mit durch eine
gespannte Feder bewirkter Stößervorrichtung und elek-
tromotorischem Antrieb. — Fritz Hofmann,
Hermesdorf, Bez. Breslau. 11/7 05.
- 41. C. 10760. Expansions- und Verschlußvorrich-
tung für Postverschlösser. — Eisenhüttenwerk
Thale, Alt.-Ges., Berlin. 30/3 05.

- 7a. S. 33232. Vorschubvorrichtung für Flieg-
schiffswalzenwerke zum Auswalzen von Rohren und
Hohlkörpern zur Erzielung einer stoffreien Ein-
führung des Werkstücks zwischen den Walzen. —
Otto Peet, Düsseldorf, Graf Adolfsstr. 45. 18/6 04.
- 73. S. 19799. Vorrichtung zum Stumpfschweißen
von Rohren. — H. C. Senkenderrenner, Düssel-
dorf-Oberasselt. 13/7 04.
- 71. S. 31193. Verfahren zur Herstellung von Flug-
schiffwerkstoffen verschieden wählbarer Länge durch
Auswalzen und Trennen des Walzstabes. —
Hafenclaver & Sohn, Vogelssang i/W. 24/8 03.
- 83. A. 11827. Platt- oder Hügelmäschine mit ab-
giebbarem Hängelbrett. — Mathias Achenbach,
Aldersfr. 39, u. Dreifus & Lehmann, Stuttgart.
3/3 05.
- 41. B. 20327. Belüftungseinrichtung für mit
Balken arbeitende Entwürfer. — Dr. Peter
Raths, Anna Raths u. Julius Raths, Bonn
a/Rh., Kirchentaler 3. 26/10 04.
- 9. B. 39326. Zahnbürste oder ähnliche Bürste,
deren Stiel mit einer Nut und gegebenenfalls mit
einem Absatz zum Festhalten einer anwandelbaren
Borstenplatte versehen ist. — Bernhard Fredrik
Barman, Stockholm; Vertr.: A. Poll u. A. Vogt,
Pat.-Anwälte, Berlin W. 8. 27/2 05.
- R. 29425. Bündelabteilverrichtung zum Abteilen
von Bündeln aus geschichtetem Bündelstoff ver-
mittels einer unter dem Stoff gleitenden und mit
einem Haken versehenen Schiene. — Georg Klee-
mann, Stuttgart, Seyffertstr. 24. 19/4 05.
- B. 17827. Bürste oder Besen. — Minna
Sophie Friederike Petersen, Hamburg, Reber-
str. 175. 9/11 05.
- 12b. B. 21852. Verfahren zur Trennung von Ge-
mischen flüchtiger und schwerer, schmelzbarer Stoffe, wie
Öl und Stearin, Paraffin u.dgl. in Filterpressen
mit zwecks Ausübung einer Pressung auf das Filter-
gut in dem nicht geführten Filterplatten. —
Gustav Wagner-Schmidt, Wien; Vertr.: C.
Lamberts, Pat.-Anw., Berlin S.W. 61. 15/2 04.
- 12e. S. 21551. Vorrichtung zur Reinigung von
Hochöfenanlagen u.dgl. — Pauls Schwarz & Co.,
Dortmund. 1/2 04.
- 12i. D. 15948. Verfahren zur Darstellung von
Kalkumperborat. — Deutsche Gold- u. Silber-
scheide-Anstalt, vorm. Koeffler, Frankfurt
a/M. 3/6 05.
- 12j. B. 19997. Verfahren zur Darstellung einer o-
Oxydanthioninsulfidure. — Franz Fritzsche & Co.,
Chemische Fabrik, Hamburg. 25/3 05.

* Anmerkung. Gedruckte Patentschriften über diese Erfindungen
erscheinen erst nach erfolgter Patenterteilung und können jetzt noch
nicht bekannt werden (siehe unten die Anmerkung zu Erteilungen).
Die durch einmengen eingetragene Erteilung wird das Patentamt auf
Grund einer Mitteilung der Kosten abgeschrieben der Befehlungen
nach dem Gesetz vom 1. März 1906.



Zurücknahme von Anmeldungen.

a) Die folgenden Anmeldungen sind vom Patent-Inhaber zurückgenommen.

12a. G. 20610. Heizvorrichtung für Vakuumverdampfer u.dgl. mit die Rohrwandungen aufnehmenden Verteilungskammern. 27/12 05.

23a. R. 28135. Verfahren und Vorrichtung zur Glättmachen der gewirbelten Haare bei Zellen. 15/2 06.

45a. S. 17532. Kartoffelentemasmachine mit Roß- und Fördervorrichtung. 27/12 05.

63a. R. 27324. Brenndvorrichtung für durch Druckluftmotor angetriebene Motorsfahrzeuge. 22/2 06.

b) Wegen Nichtzahlung der vor der Erteilung zu entrichtenden Gebühr gelten folgende Anmeldungen als zurückgenommen.

73a. R. 39146. Metallpresse mit elektrisch beheizter Pressammer. 30/11 05.

23b. H. 2507. Einrichtung zur Verstellung der Förderrolle von Federstiftmaschinen mit scheibenförmigem Messer, das in einem am Maschinengehäuse liegenden Veger drehbar ist. 11/12 05.

33a. G. 13628. Fährbare Bühne mit federndem Sitz für Fördergeleite. 7/12 05.

46a. Sch. 22701. Lamellenführer mit senkrecht stehenden, aus profilierten Blechen hergestellten Aufhängen. 30/10 05.

54a. D. 13386. Leuchtendes Reflektorschild. 27/11 05.

— R. 21226. Warenhalter für Schaufensteranlagen. 4/12 05.

59a. G. 31974. Hochdruck-Zentrifugalspumpe mit doppelter, seitlich übereinander liegenden Schaufelrängen einseitiger Veranichlung. 28/9 05.

68a. G. 33854. Feinstellvorrichtung mit einem am Zentrierbügel befestigten, kreisförmig gebogenen und mit Einbuchtungen zum Einlegen einer am Gewände drehbar gelagerten Sperrklinke versehenen Sperrarm. 30/11 05.

77f. G. 10453. Schreitende Figur mit von einer oder mehreren Doppelturbinen abwechselnd nach unten gedrehten und angehobenen, mit den Füßen gelenkig verbundenen Arbeitsstangen. 27/11 05.

Das Datum bedeutet den Tag der Bekanntmachung der Anmeldung im „Reichs-Anzeiger“. Die Wirkungen des einstweiligen Schutzes gelten als nicht eingetreten.

Verfügungen.

Auf die nachstehend bezeichneten, im „Reichs-Anzeiger“ an dem angegebenen Tage bekannt gemachten Anmeldungen ist ein Patent verweigert. Die Wirkungen des einstweiligen Schutzes gelten als nicht eingetreten.

81. T. 9373. Verfahren zur Herstellung baumwollener Ruspitzen, Ruspistieren, Posaumenten usw. 28/11 04.

22b. R. 24100. Darstellung eines Schwefelsäureoxyds. 11/4 04.

23a. G. 31965. Walzenpaar zum Vorbereiten saftreicher Pflanzenteile, namentlich Krambe, für das Schwingen. 17/11 04.

32a. T. 9628. Aus einer auf das Ende eines Spagier- oder Pergamentes aufzulegenden Platte bestehender Rändelhülse. 8/6 05.

49f. G. 30180. Verfahren und Vorrichtung zur elektrischen Schweißung dünner und dünnerer Bleche. 20/6 04.

80b. L. 18947. Verfahren zur Herstellung von Zement aus Hochofenschlacke, Kohl- und anderen Zuschlägen durch Mischen der vorgewärmten Zuschläge mit glühender Hochofenschlacke. 18/8 04.

Erteilungen. 7)

Auf die hierunter angegebenen Gegenstände sind den nachgenannten Patente erteilt, die in der Patentrolle die hinter die Klassifizierung gesetzten Nummern erhalten haben.

Das beigefügte Datum bezeichnet den Beginn der Dauer des Patents. Am Schluß ist jedesmal das Abkürzungszeichen angegeben.

(Bekanntmachung im Reichs-Anzeiger vom 12. März 1906.)

Von 170121 bis 350.

1a. 170321. Wäsch- und Sortiervorrichtung für Sand, Kies u.dgl., bei der das Wäschgut eine Kanne hinter- und übereinander stehender, geneigter Wäschbehälter mit zwischengeschalteten Sieben und Wasserzuführungen durchläuft. — Paul Peter Schmeiß, Moskau; Vertr.: G. Dalsch, Pat.-Anw., Berlin W. 6. 29/3 05. — G. 13516.

4a. 170322. Laternen für Führer mit Fahrpreis-anzeiger, welche drehbar in dem drehbaren Laternenarm angebracht ist. — Marcus Rosenbaum u. Carl August Johansson, Stockholm; Vertr.: Franz Schwenker, Pat.-Anw., Berlin W. 6. 11/3 05. — R. 20891.

4g. 170323. Spiritusvergaser; Zus. a. Pat. 163 822. — Albert Wigel, Stuttgart, Sonnenbergr. 35. 4/9 04. — W. 22721.

— 170324. Gasglühlichtbrenner; Zus. a. Pat. 161 270. — Jul. Charl. Friedr. Jürgens u. Rud. Guß. Witt, Hamburg. 21/1 05. — J. 8233.

— 170325. Vorrichtung zum Regeln der Menge der inneren und äußeren Verbrennungsluft bei Gasglühlichtbrennern. — Erich Verwath, Linden b/Hannover. 4/4 05. — W. 23681.

— 170326. Anallgasbrenner, insbesondere für Kalklichtlampen. — Drägerwerk Heinr. & Bernh. Dräger, Lübeck. 2/8 05. — D. 16105.

5b. 170328. Teleskopartig ausgebildete Spannsäule für Bohrmaschinen. — Eduard Sirtaine, Essen, Ruhr. Gelsbergr. 6. 18/9 04. — S. 20047.

5c. 170166. Verfahren zum Niederbringen von Schichtflächen in steilem und wasserführendem Gebirge. — Donnerzsmarckhütte, Oberschleissche Eisen- und Kohlenwerke Akt.-Ges., Badre, O/S. 9/9 01. — D. 15187.

5d. 170327. Vorrichtung zur Ermittlung der Abweichung von Bohrlöchern von der Senkrechten, bei der die Abweichung durch ein in einem drehbaren Rahmen frei schwingendes Pendel angezeigt wird. — Hugh Frederick Marriott, West Cliff, Transvaal; Vertr.: H. Neubert, Pat.-Anw., Berlin W. 6. 25/8 04. — M. 26011.

6a. 170158. Tragbare Vorrichtung zum Waschen, Mischen, Weichen und Lärten von Getreide, insbesondere für Mälzereizwecke, sowie zum Belüften von Gärungsgeläufigkeiten. — Carl Baudach u. Oscar Lange, Rastatt. 25/12 04. — B. 38827.

6b. 170167. Verfahren zur Herstellung von süßolarmen oder süßolarmen vergorenen Flüssigkeiten. — A. Koch, Berlin-Schöneberg, Hauptstr. 4. 21/8 03. — R. 25830.

170168. Apparat zur Abscheidung von Vorläutprodukten aus Spiritus. — H. Max Strauch, Reiffe, Schle. 6/1 05. — Z. 9291.

6d. 170121. Verfahren zum Raffinieren von Rohspiritus, besonders Rohspiritus aus Küstungsdistillen, mittels Wasserstoffperoxyd. — Christian August

*) Nummerung. Befestungen auf die Patentschriften sind ausschließlich an das Patentamt zu richten; sie müssen das Patent nach Nummer, Namen und Gegenstand angeben und sollen, soweit irgend möglich, innerhalb der nächsten 14 Tage eingeleitet werden. Wird der eingeleitete Patentschrift: A. dem Bezug von mehreren 20 Stück einer Nummer oder bei Vorbestellungen auf einzelne Nummern 10 St. u. darüber ergibt die Bekanntmachung im Blatt f. Pat.-Werk u. Zeichenwesen vom 27.9.1900.



Defendant's Exhibit D. D. D. D.

2091

(Translation)

PATENT GAZETTE.

- - - - -

PUBLICATIONS

on the basis of the

PATENT LAW AND OF THE LAW RELATING TO THE PROTECTION OF UTILITY
MODELS.

Published by the
IMPERIAL PATENT OFFICE.

Thirtieth Year

1906.

First Half-Volume.

- - - - -

84677

BERLIN.

Carl Heymann, Printer.

*United States District Court
Eastern District of Michigan
Southern Division
Thomson Spot Welder Company, Plaintiff, } In Equity.
vs. }
D. D. D. D.*



PATENT GAZETTE

(Publications on the basis of the Patent Law and
of the Law relating to the protection of Utility
Models)

and

ABRIDGEMENTS OF THE PATENTS.

Published by the Imperial Patent Office.

1906. Berlin, Wednesday, 14 March

No. 11.

PATENTS.

APPLICATIONS.

REFUSALS.

49f. H. 30189. Process and Apparatus for electrical welding of
thin and very thin sheets of metal. 20/6 04.



2092

Deft's Exhibit a a a a

A. M. STANLEY.
WELDING PRESSURE CONTACT.
APPLICATION FILED JAN. 23, 1915.

1,176,614.

Patented Mar. 21, 1916.

Fig. 1.



Fig. 2.



Fig. 3.

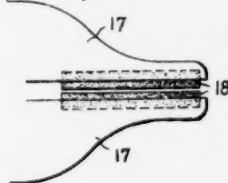


Fig. 4.

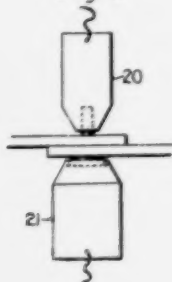


Fig. 5.

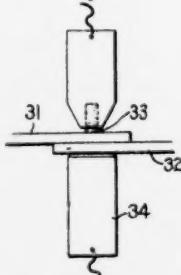


Fig. 6.

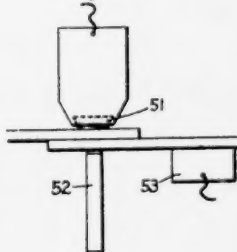
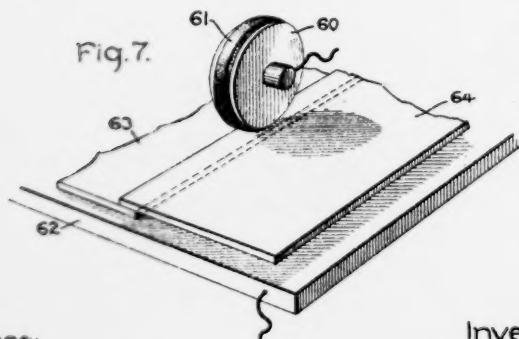


Fig. 7.



Witnesses:

Helen O. Ford
Margaret E. Hoolley

Inventor
Arthur M. Stanley.
by *Alfred B. Davis*
His Attorney.



2004

Def't Exhibit aaaa

UNITED STATES PATENT OFFICE.

ARTHUR M. STANLEY, OF LYNN, MASSACHUSETTS, ASSIGNOR TO GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

WELDING PRESSURE-CONTACT.

1,176,614.

Specification of Letters Patent.

Patented Mar. 21, 1916.

Application filed January 23, 1915. Serial No. 3,946.

To all whom it may concern:

Be it known that I, ARTHUR M. STANLEY, a citizen of the United States, residing at Lynn, in the county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Welding Pressure-Contacts, of which the following is a specification.

My invention has reference to electric welding by heating the surfaces of the objects to be welded by the passage of an electric current between them while they are in contact under pressure, as distinguished from welding by heating the surfaces of the objects by an electric arc formed between them and then contacting these surfaces under more or less pressure. The former process is generally spoken of as "resistance welding", because the welding heat is a function of the electrical resistance of a short portion of the objects back of the contacting surfaces, and of the transition resistance between the surfaces; while in the arc welding process the welding heat is almost entirely due to the arc formed between the surfaces.

There are two species of resistance welding, namely, butt welding and sheet welding. In butt welding, the two objects to be welded together are each tightly held in a clamp of very low resistance and high thermal conductivity and are brought into contact with moderate pressure, the current being supplied through the clamps, so that there is practically no resistance in the clamps and between each clamp and the respective welding object. The clamps are, therefore, not noticeably heated and impart no heat to the welding objects, the heat being developed solely in the welding objects at and near their contacting surfaces, and the clamps acting as current conveyers and heat dissipating means, so that the temperature of the welding objects back of the contacting surfaces is kept low. In sheet welding clamps cannot be conveniently employed and are generally not employed, and, in fact, the term "sheet welding" properly applies only to those cases where welding clamps are not employed. In these cases, as where two or more sheets are superimposed and welded together, face to face, the welding current is supplied to the sheets at the place where a weld is to be made by pressure contacts, the same as by the clamps in butt welding, with this difference, however, that whereas the

clamps have a negligible resistance and a negligible transition resistance toward the welding objects, the pressure contacts being small in cross-section, have a noticeable resistance and a decided transition resistance toward the sheets.

My invention has reference to sheet welding and more particularly to the welding of sheets made of metals of low specific resistance and high thermal conductivity, such as copper, brass, aluminum and others.

Heretofore sheet welding on sheet-iron, sheet-steel and sheets of other metals of comparatively high specific resistance and low thermal conductivity has been accomplished with varying success with the use of copper pressure contacts; but it was found impossible to make successful sheet welds between copper, brass, and other like metals. The pressure contacts of copper were found to be useless when sheet-copper was attempted to be welded, because they tended to chill the sheets, which themselves are good conductors of heat, and to chill them to such an extent that with a moderate current the welding heat could not be imparted to the sheets, and when the current was raised the pressure contacts themselves became welded to the sheets.

I have found that in order to successfully weld sheet copper (which may here serve as the representative of low resistance and good heat conducting metals) it is necessary that the pressure contacts be of a material that has a considerably higher specific resistance than copper and that its ohmic resistance be sufficiently high that it may be heated by the current as much or more than the copper and then act as a barrier to heat conduction from the work; that it be a comparatively low conductor of heat for the same purpose; that it be more refractory than copper, so that it will not soften and become welded to the copper; and that it have considerable mechanical strength and not be noticeably deteriorated by exposure to air at the temperatures to which it is subjected. I have found all these characteristics combined in the metals tungsten and molybdenum, and by the use of either of them as pressure contacts I have been able to weld together sheets of copper and other metals of like properties safely and expeditiously, and without deterioration of the contacts after long continued use. It is not

necessary that the whole body of the pressure contact piece be made of tungsten or molybdenum, since it is all sufficient that the contact proper be a short piece of tungsten or molybdenum carried by any other suitable metal, which latter may be considered as a backing or carrier of the pressure contact proper. All this will more fully appear from the following detail description with reference to the accompanying drawing, in which a number of the many possible forms in which my invention may be embodied are set forth and illustrated.

Figure 1 is a side elevation of a form of welding pressure contact made in accordance with my invention. Fig. 2 is a side elevation of another form of welding pressure contact. Fig. 3 is a side elevation of the jaws of a machine carrying another form of welding pressure contacts, also suitable for brazing. Figs. 4, 5, and 6 are views illustrating the application of my invention in welding two sheets together at a single spot at a time; and Fig. 7 is a perspective view illustrating the application of my invention to continuous line welding.

In Fig. 1 the contact support 10 is rather bulky and may be made of copper, but any other metal of sufficient bulk so as to have a small ohmic resistance may be used. In the end of this bulky piece of copper is inserted the welding pressure contact proper 11, and this is made of either molybdenum or tungsten, or of any other substance which has the hereinbefore described characteristics of molybdenum and tungsten. It is inserted in the piece 10 to a considerable depth so as to be well united with the same, and only a very short piece of it projects; and it is this short projecting piece of molybdenum or tungsten which serves as the welding pressure contact in accordance with my invention. Owing to its considerable mass, the carrier prevents the welding pressure contact proper from becoming overheated. The shape of the welding pressure contact is immaterial; it may be cylindrical or prismatic or have any other cross-section, but under all circumstances it must not project beyond the carrier 10 to any considerable length. I have found that if this piece projects about one eighth of an inch, it gives very satisfactory results under most conditions; while when it projects considerably more than one eighth of an inch it generally gets too hot and imparts too much heat to the sheets to be welded, which are then liable to be burned through. In Fig. 2 the construction shown is similar to that of Fig. 1 except that in this case the welding pressure contact 16 is in the form of a button having beveled edges inserted into a recess formed in the carrier 15, and the metal of the carrier is then spun over the bevel of the contact and thus firmly holds it

in place. It will be understood that in both of these constructions, in fact, in all applications of my invention, the copper or other carrier of the welding pressure contact is not intended to come into contact with the sheets which are to be welded, as will appear farther on.

In Fig. 3 the welding pressure contacts 18 of molybdenum or tungsten are inserted in the faces of jaws 17 for a considerable length and may have any suitable width, either for welding sheets together over a considerable surface in one operation, or for brazing them together.

It will be understood that the structures shown in Figs. 1 and 2 are supposed to be parts of a welding machine; that the current is conducted primarily to the carriers 10 and 15; and that the sheets to be welded together are overlapped and the overlapped portion is inserted between two such structures as are shown in either Fig. 1 or Fig. 2, or between two structures like Fig. 1 and Fig. 2. In some cases only one of these structures is used and the other necessary pressure contact is supplied otherwise. Thus, a highly successful weld can be made by the arrangement shown in Fig. 4 in which one carrier and contact 20 is constructed like that shown in Fig. 1 and the other is constructed like that shown in Fig. 2. Welding by the use of two such pieces is known in the art as spot welding, the weld only occupying a surface equal to that of the smaller of the two welding pressure contacts. The welding operation usually takes about one quarter of a second of time so that in the practical operation of spot welding the two sheets which are to be welded together are usually placed upon one of the welding pressure contacts and the other welding pressure contact is quickly brought down upon the sheets in alignment with the other and is almost immediately thereafter withdrawn. This is the practical operation, which is well known in the art as spot welding of sheet iron. Usually and preferably one of the welding pressure contacts is broader than the other, since in this manner the work does not become perceptibly marred.

In Fig. 5 I have illustrated the welding of a sheet of copper 31 to a sheet of steel 32. In this case the welding pressure contact 33 which comes to bear upon the copper sheet must be either molybdenum or tungsten in accordance with my invention, while the pressure contact piece 34 upon which the sheet steel rests may be of copper.

In Fig. 6 I have illustrated an arrangement in which only one of the welding pressure contacts 51 is a terminal of the circuit that carries current to the work. The other terminal 53, is a block of any desired shape in contact with one of the sheets of the con-

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1,178,814

B

ple which is to be welded together, and 52 represents the plunger of a punch which presses the two sheets against the contact 51 and thus localizes the weld.

5 Fig. 7 illustrates my invention in its application to line welding. The roller 60 of copper or other good conductor has a slightly projecting rim 61 of molybdenum or tungsten which constitutes the welding pressure contact and two sheets 63, 64 of copper are supported upon a table 62 which constitutes one of the terminals, the roller 60 being the other terminal. As this roller is moved along the overlapping edges of the 15 two sheets, current being supplied to the apparatus as indicated, a welded seam is formed expeditiously, the speed of the roller being gaged according to the current supplied and according to the thickness of the 20 sheets.

It is quite practicable to weld together three or more superposed sheets of copper or other low resistance material if the rule is observed that the welding pressure contacts 25 must project from the carrier to a greater distance as the number of superposed sheets increases; but under all circumstances the projection of the welding pressure contact must be very short, within the range of 30 about one-eighth to one-fourth of an inch.

It should be understood that the constructions herein shown and described may be changed in form, size and proportions without deviating from my invention; and where- 35 ever in the appended claims the metal

tungsten is recited, it is to be understood that the metal molybdenum is the equivalent of the same.

What I claim as new and desire to secure by Letters Patent of the United States, is:— 40

1. A sheet metal welding pressure contact having the described characteristics of tungsten and molybdenum.

2. A sheet metal welding pressure contact having the described characteristics of tungsten and molybdenum and a carrier for the same having low electrical resistance and large heat radiating surface. 45

3. A sheet metal welding pressure contact of refractory high resistance material which 50 is only slightly affected by the oxygen of the air at high temperature, and a carrier for the same having low electrical resistance and large heat radiating surface.

4. A sheet metal welding pressure contact 55 of tungsten.

5. A sheet metal welding pressure contact of tungsten and a carrier for the same having low electrical resistance and large heat radiating surface. 60

6. A sheet metal welding pressure contact of tungsten and a carrier for the same of copper having large heat radiating surface.

In witness whereof, I have hereunto set 65 my hand this 22nd day of January, 1915.

ARTHUR M. STANLEY.

Witnesses:

ALEX D. SALINGER,
CHARLES E. HEYWOOD.



398 Proceedings in the United States Circuit Court of Appeals for the Sixth Circuit.

Appearance of Counsel.

[Filed March 21, 1921.]

Arthur B. Mussman, Clerk of said Court:

Please enter my appearance as counsel for the Appellant. Fish, Richardson & Neave. Stevenson, Carpenter, Butzel & Backus.

Order Approving Stipulation that 20 Copies of Record be Filed.

[Filed April 6, 1921.]

The stipulation of the parties that only twenty copies of the record need be filed with the clerk is approved.

399

Order Assigning Cause for Hearing.

[Filed June 7, 1921.]

This cause is assigned for hearing at the ensuing October session. Two and one half hours will be allowed each side for oral argument.

Cause Argued and Submitted.

(October 10, 1921.—Before Knappen, Denison, and Donahue, C. J.J.)

This cause is argued by Mr. Frederick P. Fish, for the appellant and by Mr. Melville Church, for the appellee and is submitted to the Court.

Decree.

[Filed June 28, 1922.]

Appeal from the District Court of the United States for the Eastern District of Michigan.

This cause came on to be heard on the transcript of the record from the District Court of the United States for the Eastern District of Michigan, and was argued by counsel.

400 On Consideration Whereof, it is now here ordered, adjudged and decreed by this Court, that the decree of the said District Court, in this cause be and the same is hereby affirmed with costs.

Opinion.

[Filed July 3rd, 1922.]

401 Filed Jul. 3, 1922. Arthur B. Mussman, Clerk.

United States Circuit Court of Appeals, Sixth Circuit.

No. 3555.

THOMSON SPOT WELDER COMPANY, Appellant,

vs.

FORD MOTOR COMPANY, Appellee.

Appeal from the District Court of the United States for the Eastern
District of Michigan.

Submitted October 10, 1921; Decided June 28, 1922.

Before Knappen, Denison, and Donahue, Circuit Judges.

KNAPPEN, *Circuit Judge*: Suit for infringement of United States patent No. 1,046,066, December 3, 1912, to Johann Harmatta, assignor to Thomson Electric Welding Company, which is the predecessor of plaintiff company. The invention relates to that branch of electric resistance-welding known as spot-welding, by which two sheets of metal are welded together in spots, as a substitute for riveting. Generally speaking, the welding is accomplished by the application of pressure and heating current, localized in spots on the opposite plane faces of the two metal sheets. Specifically, two pointed electrodes are applied to the opposite faces of the sheets, the electrode which feeds the electricity into the work and heats the metal to the welding point being caused to exert the pressure required to accomplish the weld. The specification states that "the necessary pressure may be exerted at the place of welding by the aid of any of those technical means which are suitable for producing or transmitting pressure, e. g., with a press either direct or by means
402 of indirect transmission by levers. Or it may be by means of simple hand levers, that is to say, by means of direct or indirect manual power, or by other means." The 21 claims of the patent relate some to the process, the others to the product.

Plaintiff relies on claims 3, 8, 12 and 17 as typical. They are printed in the margin.¹ The prominent defenses are anticipation, lack of invention, prior public use and estoppel. The district court

¹ "3. The herein described method of uniting two pieces of metal, consisting in pressing them together while passing a heating electric current from one to the other and localizing the flow of current and the heating throughout the operation in a spot or spots of circumscribed or limited area as compared with the area of the immediately opposed surfaces so as to limit the union of the pieces to a spot or spots.

found each of these defenses established and dismissed the bill. (268 Fed. 836.) Non-infringement is pleaded but not urged.

The patent has been adjudicated in but one other suit, viz., Thomson Electric Welding Co. (plaintiff's predecessor) v. Barney & Berry, in the First Circuit, decided in 1915. In that case Circuit Judge Dodge, who presided in the district court, held the patent void for lack of invention. The Circuit Court of Appeals held that the patent was not anticipated and that it involved invention, and reversed the judgment of the district court. The opinions of both the district court and of the circuit court of appeals are reported in 227 Fed. 428 et seq.

The art of electric resistance welding was old and far advanced in 1903, when the Harmatta patent was applied for. Professor Elihu Thomson, the head of plaintiff company and of its predecessor, was a pioneer in that art. In 1886 he obtained process and apparatus patents respectively (Nos. 347,140 and 347,141) for so-called butt-welding, which involved the uniting of the abutting ends of metal wires, bars, etc., by applying heat at the joint and the adjacent surfaces by means of electrodes, and pressing the two pieces together when heated to welding temperature. There was here true resistance welding, with pressure of the parts involved, although the electrode did not exert the welding pressure. In 1889 Thomson obtained a patent (No. 396,015) for electric riveting, which involved the heating of the rivet when in place by means of a current passed through it by the use of electrodes, under pressure thereon, the effect being not only to swage the rivet and weld it to the adjoining metal, but apparently (when desired) to weld together, in part at least, the portions of the plates immediately adjoining the rivet.

In 1891 Thomson obtained a patent (No. 444,928) for what is called lap-welding. While the specification states that the invention is specially adapted to the welding of the overlapped edges of

"8. The method of electrically welding two plates or sheets of metal together face to face between electrodes, consisting in restricting the area of contact of an electrode with said plates to a spot, passing a heating electric current from said electrode to the co-operating electrode through said spot to heat the work to welding temperature and applying pressure to the work in line with said spot to effect a welding of one plate to the other.

"12. The method of electrically welding two pieces of sheet metal to one another, consisting in pressing the sheets together by pressure applied and localized in a distinct well-defined point or spot on the rear surface of a sheet while passing an electric current through them in the line of the pressure, thereby localizing the path of the heating current from one to the other of the meeting surfaces of the sheets to cause the said sheets to be heated to welding temperature by the electric resistance of the work at said spot, and applying pressure localized over said spot whereby the pieces are welded together at a distinct well-defined spot in their meeting surfaces answering the purpose of a rivet.

"17. Metal plates fastened together by a number of distinct or isolated welds on their meeting surfaces and in spots comprising meeting portions of the metal plates, the backs of said plates being practically unaltered in their metallic condition and the spots on the meeting surfaces being separated from one another by distinct unwelded areas."

plates, it is not so limited, but expressly includes "welding together strips, sheets, plates or bars of metal where it is desirable to form a joint of considerable length." According to the specification, "the surfaces to be welded are pressed together to form a union," the work being fed in the longitudinal direction of the joint "through suitable pressure devices [preferably roller electrodes], the work being properly arranged, so that the pressure devices will press the surfaces to be welded together and simultaneously passing the electric current through the work *at the point of pressure.*" The electrodes were employed to exert the welding pressure. The specification further states that "as the work is passed through such rolls with a continuous motion *each point*, as it comes between the rolls, is heated and the surfaces pressed together," etc. By way of further description of one of the figures it is said that "the electric current being now turned on as it passes from one roller to the other and across the point of pressure will heat the work to the welding temperature * * * after which the screw can be given a few more turns to effect a solid union. The work *having been thus started*, may now be moved along through or between the rolls so as to bring successive parts of the joint into position to be pressed and heated at the same time."²

In 1893 Thomson obtained a patent (No. 496,019) relating particularly to soldering sheet metal pieces flatwise, either by the use of solder or (when applied to tin-plates) by melting the tin
404 sufficiently to establish union thereby. The electrodes, in the form of clamps or otherwise, served not only to supply the necessary heat, but to exert sufficient pressure upon the overlapped sheets to effect their union. A roller electrode is disclosed, performing the double function of heating and pressing, and having its periphery corrugated or grooved. As stated in the specification—"The rollers exert pressure while the current heats the thin metal pieces at successive points between the rollers." This was, to say the least, electric-resistance spot-soldering.

In 1897 Robinson received a patent (No. 574,942) on so-called projection-welding, as specially applied to the welding of a splice-bar to the web of a railroad rail, the splice-bar having upon its inner face a number of projections which by the application of the heating current are fused, and by pressure made to form welds between the projections on the bar and the fused opposing portions of the rail. Kleinschmidt, in 1898, took out a patent (No. 616,436) for a similar process, and by methods not essentially unlike those of Robinson.

Whether or not the Thomson so-called lap-welding invention should be regarded as an absolute anticipation of the Harmatta patent, we think the state of the art to which we have referred left no room for invention in Harmatta. Thomson's lap-welding patent is criticized as not plane-face welding, much less spot-welding. We see no distinction upon principle between plane-face welding and lap-welding; the former certainly embraces the latter. If Thomson's roller electrode device was capable of welding a line or seam

² All italics in this opinion are ours.

in a metal lap-joint, it was readily adaptable to line-welding together coterminous plane-face plates. Harmatta's original application made in ignorance of Thomson) disclosed roller electrodes broadly enough to include that very use. We think Thomson's lap-welding invention was in essence a welding in points. In fact, his line seam was merely a succession of adjoining points. The specification repeatedly speaks of the "point of pressure," says that "each point as it comes between the rolls is heated," etc.; "the current passes across the point of pressure." It satisfactorily appears that although Thomson's roller electrodes in the form shown in the patent, were not practically adapted to commercial spot-welding as disclosed by the Harmatta patent, they could readily be made to do such spot-welding by the use of suitable projections upon the face of the rolls (Thomson later did spot-soldering by the use of such projections); and assuming that pin electrodes were essential
405 to successful commercial spot-welding, that form of electrodes was old, as illustrated by Thomson's electric soldering patent referred to. In our opinion the art of soldering is analogous to that of welding. The difference in degree of heat generated by the electric resistance, as required in welding and soldering respectively, is not sufficient to defeat analogy. By the use of enough more heat Thomson's soldering device could readily have effected spot-welding. Such analogy seems recognized in the Benardos patent, whose invention is applied "to welding thin metal sheets and rods, and the soldering of metals as well as their hardening and annealing"; and in the Lemp patent (No. 553,932) issued to plaintiff's predecessor, which provides for "welding, soldering, cementing, or similar operations." No essential difference in principle between heating at points and heating in spots is apparent. Projection welding partakes, though not in so pronounced a sense, of the nature of spot-welding.

We agree with Judge Dodge that Harmatta's idea of "making his electric welds small in area rather than large in comparison with the areas of the opposed surface to be joined and isolating them so as to leave each surrounded by a comparatively large area of unwelded surface" does not involve invention in view of the prior art. In other words, given the desire for a welding in spots, naturally enough suggested by the prior art and by its commercial development, we think Harmatta's specific application of the principles of that prior art involved only the skill of the expert mechanic. Not only every principle, but every electric and mechanical process involved in the Harmatta claims was well-known in the prior or directly analogous arts, or in mechanical arts generally. We can not think in view of the prior art, that invention is to be found in the considerations, separately or collectively, that in Harmatta no bodily movement of the sheets is required, that the current is localized and pressure exerted solely by the electrodes, or by the difference in the form of the electrodes, or by the difference in amount of extruded metal, as compared with some of the earlier applications of resistance-welding. Although invention is not necessarily negatived by the fact that each element of the combination is old, the

question of fact whether the combination itself involves invention in view of the prior art is always present.

Our conclusion of non-invention, based upon a review of the prior art, is materially strengthened by the serious doubt whether

Harmatta thought, when he filed his patent-application, that
406 he had patentably invented anything by the disclosure of

spot welding, as a process or product distinct from point-welding or line-welding; as well as by the fact that others previous to the grant to Harmatta, and apparently in ignorance of Harmatta's claimed invention, successfully practiced the art of spot-welding. Harmatta's application was filed December 3, 1903. For "continuous welding," the specification disclosed roller electrodes for exerting pressure "whereby the advancing series of single points of the seam to be welded is united to a whole with a minimum amount of current." It also showed pin-shaped electrodes "which may be adapted to work on the smallest possible surface of contact," which could be used for the "welding of two metal sheets of equal thickness, intermittently or at certain spots only," and by the use of which, as illustrated, "a small round, very sharply defined place of welding is caused which perfectly answers the purposes of a rivet." But none of the claims contain in terms any reference to spot-welding. The first claim related to the process of electric welding "consisting in employing the electrodes not only to conduct the current to the objects being welded, but also to exert a regulable pressure on the same;" the second, to an apparatus for electric welding "comprising two electrodes between which the objects to be welded are introduced and means whereby one of the electrodes can be approached to and receded from the other;" the third, to an electrode apparatus for electric welding, comprising two roller electrodes between which the objects to be welded are introduced, and means for pressing the electrodes to the work"; the fourth, to an "electrode apparatus for electric welding, comprising two roller electrodes between which the objects to be welded are introduced, and means for rotating one or both of the rollers for the purpose of advancing the work in its path between the electrodes." Each of the four claims would literally read upon Thomson's lap-welding or roller-electrode device. The natural inference would be that Harmatta regarded the principle employed in roller-electrode and pin-electrode welding as the same. The patent office found nothing patentable in Harmatta's application until six years later. The patent issued nine years after the application was filed, and after numerous vicissitudes and amendments (including the entire elimination of the roller-electrode feature), and after the application had been placed in interference with the claims of Adolph Rietzel, to whom a patent had previously been issued on July 20,
407 1909; Rietzel's claims, as allowed, being adopted by Harmatta at the suggestion of the patent office for purposes of interference. Rietzel was the engineer, superintendent and general manager of plaintiff's predecessor. His application was filed February 24, 1905, and presumably in ignorance of Harmatta's application or claimed invention. From the beginning Rietzel's applica-

tion was owned by plaintiff's predecessor. The interference was declared in favor of Harmatta, for Rietzel's failure, as the junior party to the interference, to take testimony in support of his claim of priority-plaintiff's predecessor at the time owning both the Harmatta application and the Rietzel patent. What we have said is not intended as a criticism of plaintiff's predecessor or of counsel, or of the patent office. But the fact that the award of priority was not based upon an adjudication on the merits tends to weakens its force.

It, however, convincingly appears in the record before us that in 1898 (and about five years before Harmatta's application) Rietzel, while in the employ of plaintiff's predecessor, in several instances successfully joined two pieces of lapped metal at isolated spots by means of a Thomson butt-welding machine, the sheets of metal being united by pressing them together and at the same time passing the heating current from one electrode (or so-called contact) to the opposite electrode, at the selected spot on the meeting surface of the plates, the spots being restricted in area so as to leave well-defined and comparatively extensive areas of no-union completely surrounding the spots; one of the electrodes or contacts used being of standard size and form, the other being reduced by cutting down to a diameter of about $\frac{3}{8}$ of an inch.

Assuming, for the purposes at least of this opinion, the correctness of the contention that these spot-welds, while satisfactory and successful, were not considered by Rietzel a commercially practical experiment, and did not amount to a reduction to practice within the meaning of the patent law, or became an abandoned experiment, Rietzel's experience strongly discredits inventive quality in what Harmatta did several years later, including his disclosure of the use of pin-electrodes.

The fact also appears in this record that at various times, ranging from two years to five or six years before the issue of the Harmatta patent, and apparently in ignorance of his asserted invention, various manufacturers put out or used spot-welding machines with commercial success. Some of these uses antedated the issue of the

408 Rietzel patent. These experiences also tend to discredit invention in Harmatta.

It follows, in our opinion, from what has been said that the effect of the great commercial success of the Harmatta invention in the hands of plaintiff is entitled to little weight upon the question of invention, even were that question otherwise in doubt, which we think it is not.

Our conclusion of non-invention makes it unnecessary to consider the alleged McBerty prior use, the defense of equitable estoppel asserted against plaintiff, the standing of the De Ferranti patent, or any of the other defenses presented.

The decree of the district court is affirmed.

Denison, Circuit Judge, dissents.

409 United States Circuit Court of Appeals for the Sixth Circuit.

I, Arthur B. Mussman, Clerk of the United States Circuit Court of Appeals for the Sixth Circuit, do hereby certify that the foregoing (in five volumes) is a true and correct copy of the record and proceedings in the case of Thomson Spot Welder Company vs. Ford Motor Company, No. 3555, as the same remains upon the files and records of said United States Circuit Court of Appeals for the Sixth Circuit, and of the whole thereof.

In testimony whereof, I have hereunto subscribed my name, and affixed the seal of said Court, at the City of Cincinnati, Ohio, this 5th day of July, A. D. 1922. Arthur B. Mussman, Clerk of the United States Circuit Court of Appeals for the Sixth Circuit. [Seal of the United States Circuit Court of Appeals, Sixth Circuit.]

410 UNITED STATES OF AMERICA, ss:

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Honorable the Judges of the United States Circuit Court of Appeals for the Sixth Circuit, Greeting:

Being informed that there is now pending before you a suit in which Thomson Spot Welder Company is appellant, and Ford Motor Company is appellee, No. 3555, which suit was removed into the said Circuit Court of Appeals by virtue of an appeal from the District Court of the United States for the Eastern District of Michigan, and we, being willing for certain reasons that the said cause and the record and proceedings therein should be certified by the said Circuit

Court of Appeals and removed into the Supreme Court of the
411 United States, do hereby command you that you send without delay to the said Supreme Court, as aforesaid, the record and proceedings in said cause, so that the said Supreme Court may act thereon as of right and according to law ought to be done.

Witness the Honorable William H. Taft, Chief Justice of the United States, the second day of December, in the year of our Lord one thousand nine hundred and twenty-two. Wm. R. Stansbury, Clerk of the Supreme Court of the United States.

United States Circuit Court of Appeals for the Sixth Circuit, ss.

I, Arthur B. Mussman, clerk of the United States Circuit Court of Appeals for the Sixth Circuit, do hereby certify that the transcript of the record of the proceedings of this court in the within entitled case heretofore certified by me for filing in the Supreme Court of the United States was correct and complete as the same then appeared in this Court.

In pursuance of the command of the foregoing writ of certiorari I now hereby certify that on the eighth day of December, A. D., 1922, there was filed in my office a stipulation in the above entitled case in the following words to wit:

412

No. 3555.

THOMSON SPOT WELDER COMPANY

vs.

FORD MOTOR COMPANY.

In the above entitled case it is stipulated that the record heretofore filed in the Supreme Court of the United States in support of the Petition for Certiorari may be taken as a return to the Writ of Certiorari. Thomson Spot Welder Company, by J. L. Stackpole, Its Attorney. Melville Church, Attorney for Respondent.

I further certify that the above is a true and correct copy of said stipulation and of the whole thereof. Witness my official seal, signature and the seal of said Circuit Court of Appeals at the City of Cincinnati, Ohio, in said Circuit this eleventh day of December, A. D. 1922. Arthur B. Mussman, Clerk U. S. Circuit Court of Appeals for the Sixth Circuit. [Seal of the United States Circuit Court of Appeals, Sixth Circuit.]

413 [Endorsed:] File No. 29,139. Supreme Court of the United States, October Term, 1922. No. 589. Thomson Spot Welder Company vs. Ford Motor Company. Writ of Certiorari. Filed Dec. 11, 1922. Arthur B. Mussman, Clerk.

414 [Endorsed:] File No. 29,139. Supreme Court U. S., October Term, 1922. Term No. 589. Thomson Spot Welder Company, Petitioner, vs. Ford Motor Company. Writ of certiorari and return. Filed Dec. 13, 1922.

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Office Supreme Court, U. S.

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WM. R. STANSBURY

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1922.

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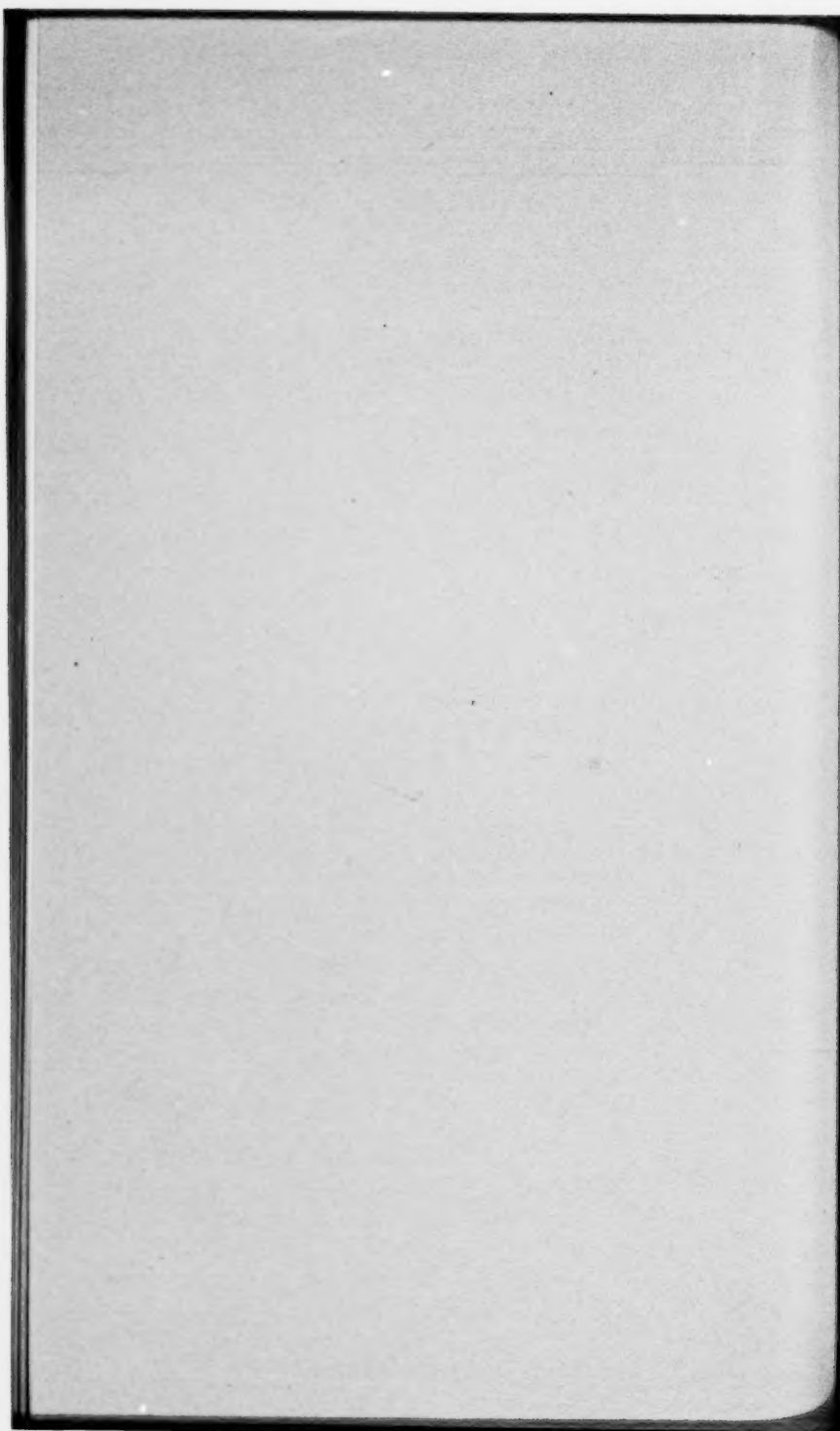
THOMSON SPOT WELDER COMPANY,
Plaintiff-Petitioner,

v.

FORD MOTOR COMPANY,
Respondent.

BRIEF FOR PLAINTIFF-PETITIONER.

FREDERICK P. FISH,
J. L. STACKPOLE,
H. F. LYMAN,
of Counsel for Plaintiff-Petitioner.



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The printed record does not contain a list of the exhibits not printed in the record. The principal physical exhibits are not listed in the record. For the convenience of the Court, we here list those physical exhibits to which we have referred, stating where they were introduced in evidence and where they are discussed in our brief.

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